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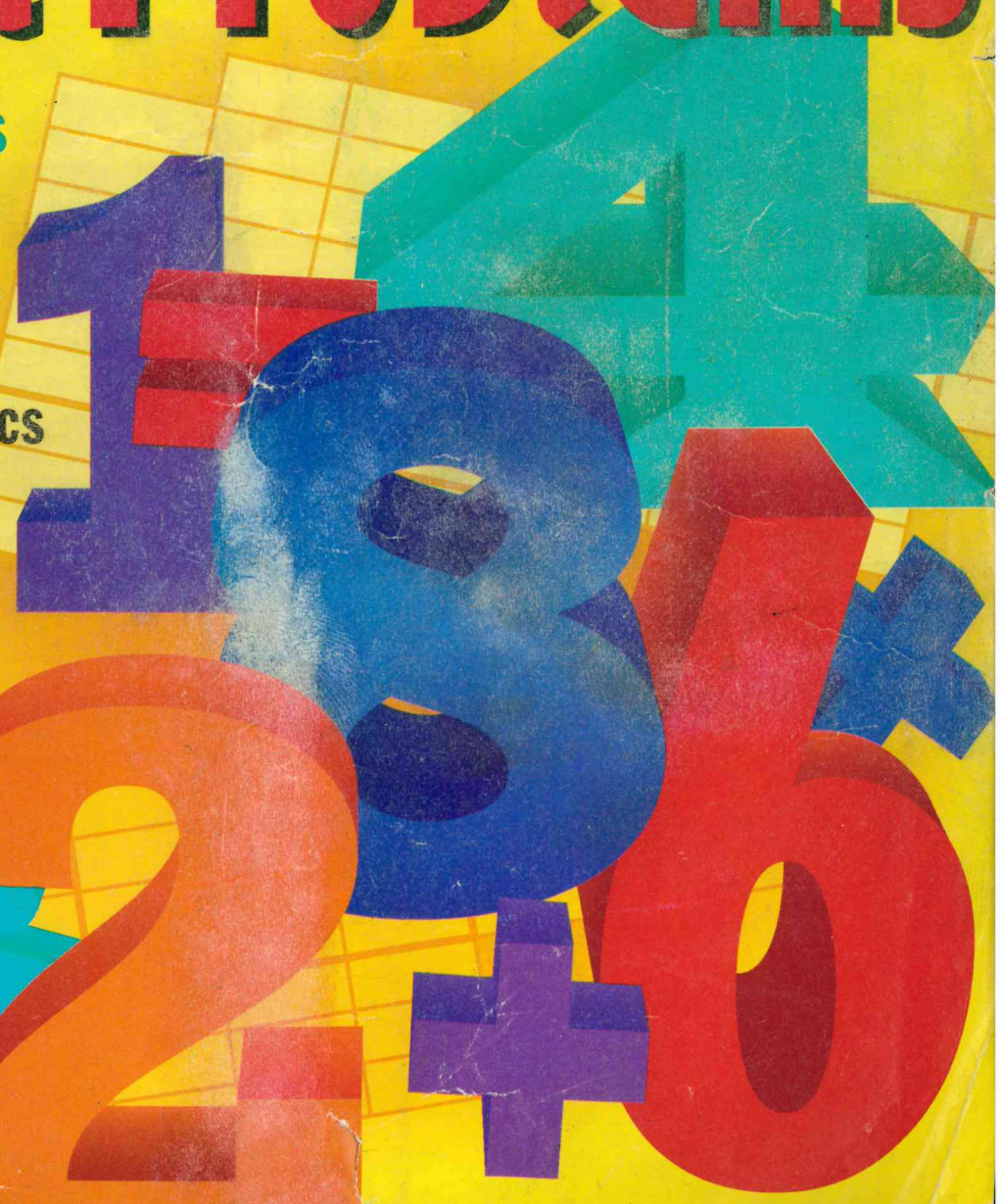

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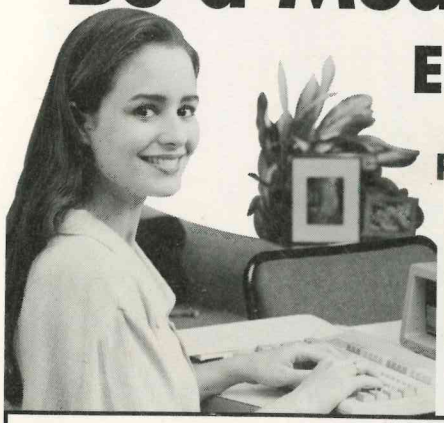

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May 1998

Math Puzzles AND Logic Problems

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A LETTER FROM THE EDITORS

What was the very first math puzzle you ever encountered? Many of us met our first numerical poser in school, and it read something like: "If train A is heading west at 60 miles an hour, and train B is heading east at 40 miles an hour, and the two trains start 50 miles apart, in how many minutes will they meet?" Our reaction might have been "Cool! A math puzzle expressed in words!

That first puzzle wasn't necessarily an easy one. For some it was a snap, and seemed to point the way to something we might be very good at. Others found it hard work, but relished that feeling of accomplishment at getting the right answer. Each of us has a personal reason for enjoying puzzles, probably one we can't fully explain. But we suspect that those reasons can be traced back, at least in part, to the feelings we experienced with that very first puzzle.

It's well-known that puzzles are a great way to learn and practice math. We here at Dell frequently hear from teachers and pupils all over the world how features in *Dell Math Puzzles and Logic Problems* have been used in classrooms, and are very proud to contribute in any way we can. At least one editor here was thrilled to recognize a letter from one of her high-school math teachers! (We're also sure the teacher was just as surprised to hear from the editor, based on her grades in that long-ago class.)

Of course, there is a wide variety of math and reasoning puzzles, going far beyond simple addition/subtraction or a sentence or two. Many of them were created by the wonderful constructors here at Dell, and won't be found anywhere else. Some involve words, like Logic Problems and Deduction Problems. Others, like Cross Sums, are based on simple math but are by no means simple to solve. And there are puzzles that combine the two disciplines, such as Word Arithmetic and Figure Logic. These five puzzles have shown themselves to be enduring favorites with solvers, and thus are the backbone of *Dell Math Puzzles and Logic Problems*. Folks have filled our mailbags with praise for the collection of 15 Logic Problems, 10 Figure Logics, 20 Cross Sums, and 45 Word Arithmetic puzzles found in every issue.

They are, however, by no means the only popular features you'll find on these pages. Don't overlook perennials like Numberama on page 37, Crossmath on page 46, Bingo Plays on pages 12 and 25, Trigons on page 43, Square Logic on page 35, and Number Place on page 23. You'll also find several puzzles you may never have seen before, like Sum Quote on page 55, Oscar's Octahedron on page 49, Eight Ball on page 17, and Marching Orders on page 6. And, if you want a taste of nostalgia, don't overlook modern (and more difficult) versions of your very first puzzle in Minute Math on page 37.

Once you've finished solving, take a minute to drop us a line and let us know which stuff you enjoyed, which you didn't, and what you'd like to see in future issues. And you might just want to drop a note of thanks to one of your past math teachers, too!

Write to us at:

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The July issue of *Best of Math Puzzles and Logic Problems* goes on sale May 19.

The Editors

LOGIC PROBLEM

1. FIRST DAY JITTERS

by David Champlin

Ned Neophyte was very excited to get his very first job as a server at General Gander's Homestyle Chicken restaurant, but he was extremely nervous his first day on the job. So jittery was he that he made a mistake in each of the first four orders he filled. Fortunately Ms. Quantz and the other three customers were all understanding and tactful in pointing out his error. Ned learned from his mistakes and never repeated the same error. From this information and the clues below, can you determine the full names of Ned's first four customers, the order in which he waited on them, and the mistake he made with each order?

1. Ned served customer Reston just before the one who was accidentally given French fries rather than mashed potatoes, who was served sometime before Ursula.

2. Velma was served sometime before customer Pei, who was served just before the one who was given the wrong drink.

3. Ned's first four customers were, in no particular order: Tim, Santiago, the woman charged the wrong price for her dinner, and the third person served.

4. Neither Walter nor the one given the wrong dessert was the fourth served.

Solution is on page 61.

If you care to use the chart below in solving this Problem, you do so by entering all the information obtained from the clues using, perhaps, an X to indicate a definite "no" and a dot to show a definite "yes." Remember: Once you enter a definite "yes" (dot), place a "no" (X) in all the rest of the boxes in each row and column that contains the dot.

	Pei	Quantz	Reston	Santiago	dessert	drink	fries	price	1	2	3	4
Tim												
Ursula												
Velma												
Walter												
1												
2												
3												
4												
dessert												
drink												
fries												
price												

If you wish to learn more about the use of Logic Problem charts and how they can assist you, send for a free leaflet of easy-to-follow instructions, "Solving Logic Problems, Step by Step." Mail to Dell Math Puzzles and Logic Problems, Dept. L.P., Dell Magazines Direct, 6 Prowitt St., Norwalk, CT 06855-1220. Please enclose a stamped, self-addressed envelope (long-letter size, if possible, please).

MARCHING ORDERS

Using a two-step sequence of addition and/or subtraction, can you make your way from Start to Finish in each puzzle below? We've started the first one; you can see that the second number is one more than the first (+1) and the third number is three more than the second (+3). Use this two-step sequence to reach Finish. On your way, you will not cross your own path or pass through any square twice. Each puzzle has a different sequence.

Solutions are on page 60.

1.

11	10	15	13	35	41
8	9	12	18	16	40
7	5	14	17	34	37
4	9	20	25	33	36
1	2	21	16	32	29
0	6	7	24	25	28

2.

16	21	20	29	41	40
19	17	21	25	38	36
18	12	23	24	35	37
15	11	13	29	28	32
6	7	10	8	22	33
0	5	4	9	14	20

3.

15	12	18	26	35	32
8	19	25	30	28	29
11	10	16	21	31	24
4	12	7	23	20	27
7	0	9	6	16	18
3	5	8	10	13	14

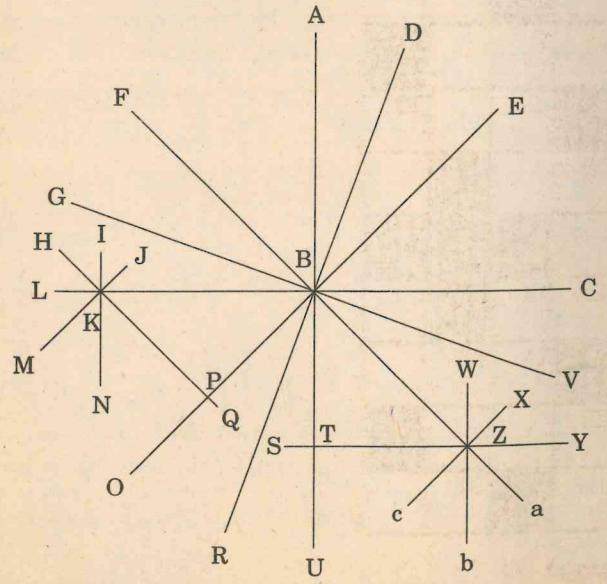
DEDUCTION PROBLEM 1

Carrie, Chris, Mike, and Ruth were relieved to discover that they had all done well on a recent algebra exam. They scored, in some order, 96, 92, 87, and 84 points each. In discussing the results at lunch, they made the following statements:

Carrie: I got the 92.
Chris: My score was 87.
Mike: I made the 84.
Ruth: I won't say what my score was, but Carrie got the 87.

If only the student who got the highest score told the truth, what score did each student really receive?

Answer is on page 61.



RIGHT-ANGLE TANGLE

How many right (90°) angles can you find in the diagram to the left?

Answer is on page 63.

FIGURE LOGIC 1

by Linda Thistle

Solve Figure Logic by completing some simple arithmetic problems, which will enable you to move from clue to clue through the puzzle. You will not always be able to complete an entire number at first, but you may be able, by logic, to determine what one or more of the digits must be. If you enter those digits into the diagram, they may help you to solve other clues, and you can eventually return to the unfinished numbers and finally complete them.

NOTE: A square of a number is that number multiplied by itself. For example, the square of 6 is 36 (6 x 6 = 36).

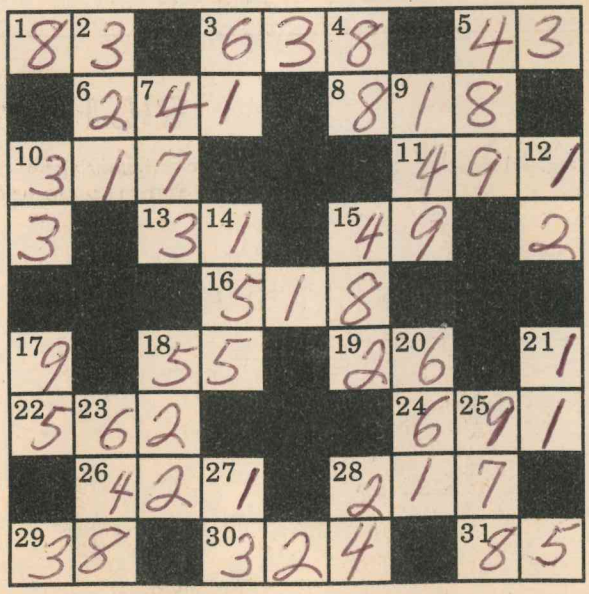
A starting help is given on page 66.

ACROSS

1. The digits of 29-Across reversed
3. Ten less than 23-Down
5. 18-Across minus 12-Down
6. One-half of 15-Down
8. Three hundred more than 16-Across
10. One hundred more than 28-Across
11. Two hundred less than 24-Across
13. One-fifth of 14-Down
15. Six more than 5-Across
16. Four less than 18-Down
18. Five times 21-Down
19. Two times 27-Down
22. 6-Across plus 2-Down
24. Thirty more than 20-Down
26. Seventy less than 11-Across
28. 3-Across minus 26-Across
29. 19-Across plus 12-Down
30. Three more than 2-Down
31. Ten less than 17-Down

DOWN

2. One hundred less than 26-Across
3. 31-Across minus 28-Down
4. 18-Across plus 10-Down
5. Two less than 11-Across
7. 5-Across times 21-Down
9. 3-Down plus 4-Down
10. Two more than 13-Across
12. One-half of 28-Down
14. Six more than 9-Down
15. Nine more than 7-Down
17. 1-Across plus 12-Down
18. Forty less than 22-Across
20. 25-Down minus 10-Across
21. One-eighth of 4-Down
23. Two times 30-Across
25. Two times 5-Down
27. Two more than 21-Down
28. Two less than 19-Across



Solution is on page 60

WORD ARITHMETIC

These are long-division problems in which letters are substituted for numbers. Solve the problem; determine the number value of each letter; and, when the letters in each one have been arranged in order from 0 to 9, they will spell out a word or words.

Solutions are on page 65.

1.

0 1 2 3 4 5 6 7 8 9

```
        URN
NET | STONE
      NET
      RURN
      UICE
       ISUE
       ICNE
        ILO
```

2.

0 1 2 3 4 5 6 7 8 9

```
        RED
DIM | RECORD
      DIM
      EIAR
      MMCI
       DRAD
       EMPC
        LAI
```

3.

0 1 2 3 4 5 6 7 8 9

```
        BE
ABET | ACTION
       CEORP
        AAOON
       AAPTT
         TI
```

4. CAJOLEDHIM

0 1 2 3 4 5 6 7 8 9

```
          346
          OLD
6323 | 2191801
DOJO | JAMAICA
     18969
     AIMDM
     29490
      JMLMC
     25292
      JEJMJ
       41981
       LAMIA
       37938
       OHMOI
        4043
        LCLO
```

5. GETINMYCAR

0 1 2 3 4 5 6 7 8 9

```
          1248
          ETNA
785 | 9803460
CAM | RAGING
     785
     CAM
     1953
      ERMI
     1570
      EMCG
       3834
       IAIN
       3140
       IENG
        6940
        YRNG
        6280
        YTAG
         660
         YYG
```

6.

0 1 2 3 4 5 6 7 8 9

```
        ICE
HUH | USHER
      HUH
      IHNE
      IEOC
       CEIR
       CNTU
        CHI
```

7.

0 1 2 3 4 5 6 7 8 9

```
        UP
MITE | CATCH
       MITE
       EEHMH
       EGTMC
         TG
```

8.

0 1 2 3 4 5 6 7 8 9

```
        IT
RIBS | TEARS
       RIBS
       AVHES
       ARTEG
         ABV
```

9. BORINGMEAL

0 1 2 3 4 5 6 7 8 9

```
          236
          RIM
415 | 98257
NOG | LARGE
     830
     AIB
     1525
      OGRG
     1245
      ORNG
       2807
       RABE
       2490
       RNLB
        317
        IOE
```

LOGIC PROBLEM

2. THE LOCKSMITH SAVES THE DAY

by Mary Powell

When Seth Campbell was a child, he loved to take things apart. Clocks and lamps and toasters all fell prey to his inquisitive nature, but his favorite playthings were locks. When he was seven, Seth's mother issued an edict: "If you take it apart, you have to put it back together!" From that day on, if something could be fixed, Seth could fix it. As an adult, Seth's Fix-It Shop is the busiest in town, but locks are still his favorite objects. Although he spends a lot of time in his workshop fixing things customers bring in, last Tuesday he left his shop to help four customers who had locked themselves out. From the following clues, can you find the full names of the four customers (one first name is Anna; one surname is Hawthorne), the street on which each waited (one waited on Wilson), and the type of door each needed unlocked?

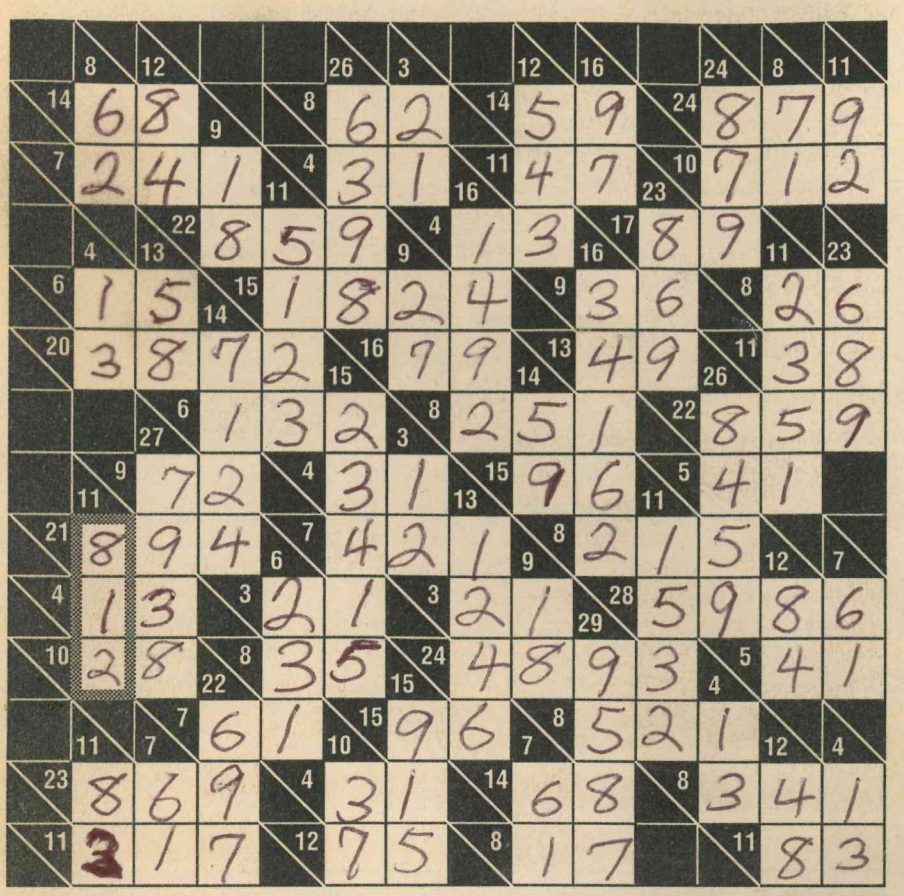
1. Neither Calvin nor customer Weldy was the one who needed a car door unlocked.
2. The person who waited on Jackson Street was neither Eve nor the person who needed an office door unlocked.
3. Customer Ramsey, who is not Oliver, wasn't the person who needed a back house door unlocked.
4. Mr. Taylor wasn't the person who needed a front house door unlocked.
5. Calvin didn't wait on either Franklin or Madison Street.
6. Weldy's apartment manager keeps spare keys, so he never needs that door unlocked.
7. There are no houses on Jackson Street.
8. Taylor's car has been in the shop for a month, so he was not locked out of it.
9. Oliver is not Weldy.
10. There are no offices on Madison Street.

Solution is on page 61.

Directions for the use of Logic Problem solving charts are on page 5.

	Anna	Calvin	Eve	Oliver	Franklin	Jackson	Madison	Wilson	back	car	front	office
Hawthorne												
Ramsey												
Taylor												
Weldy												
back												
car												
front												
office												
Franklin												
Jackson												
Madison												
Wilson												

CROSS SUMS

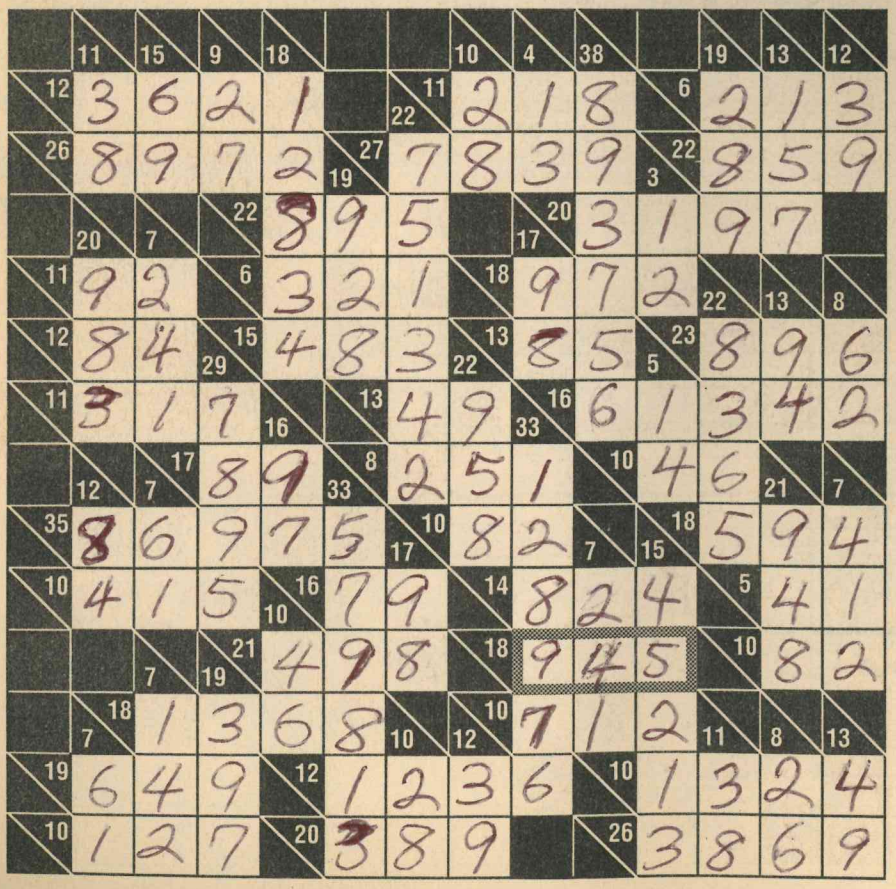


NUMBER 1

In these puzzles, the numbers in the black squares refer to the SUMS of the digits that you are to fill into the empty spaces. The number ABOVE the diagonal line refers to the empty spaces directly to the RIGHT of that number. A number BELOW the diagonal line refers to the empty spaces directly BELOW that number.

No zeros are used here, only the digits one through nine. An important point: A digit cannot appear more than once in any particular digit combination. We have outlined one area in each diagram. If you need help starting a puzzle, the digit combination to go into that area is listed on page 66.

Solutions are on page 59.



NUMBER 2

Tell us your story, Lisa!

61
13
51

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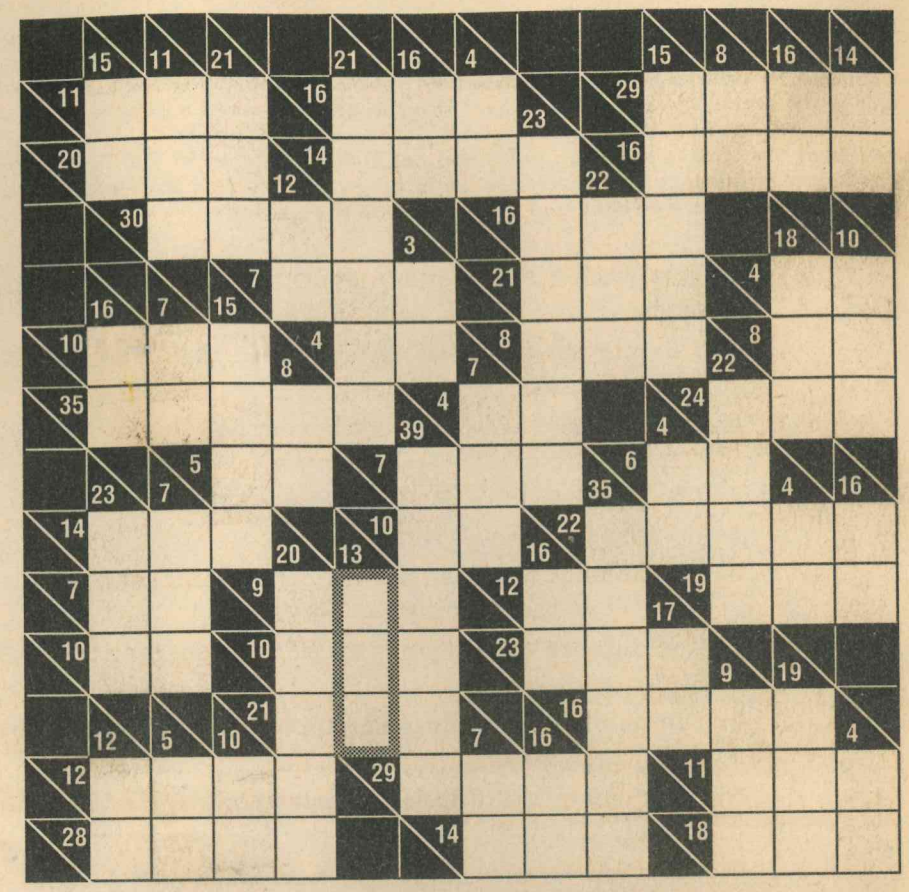
CROSS SUMS

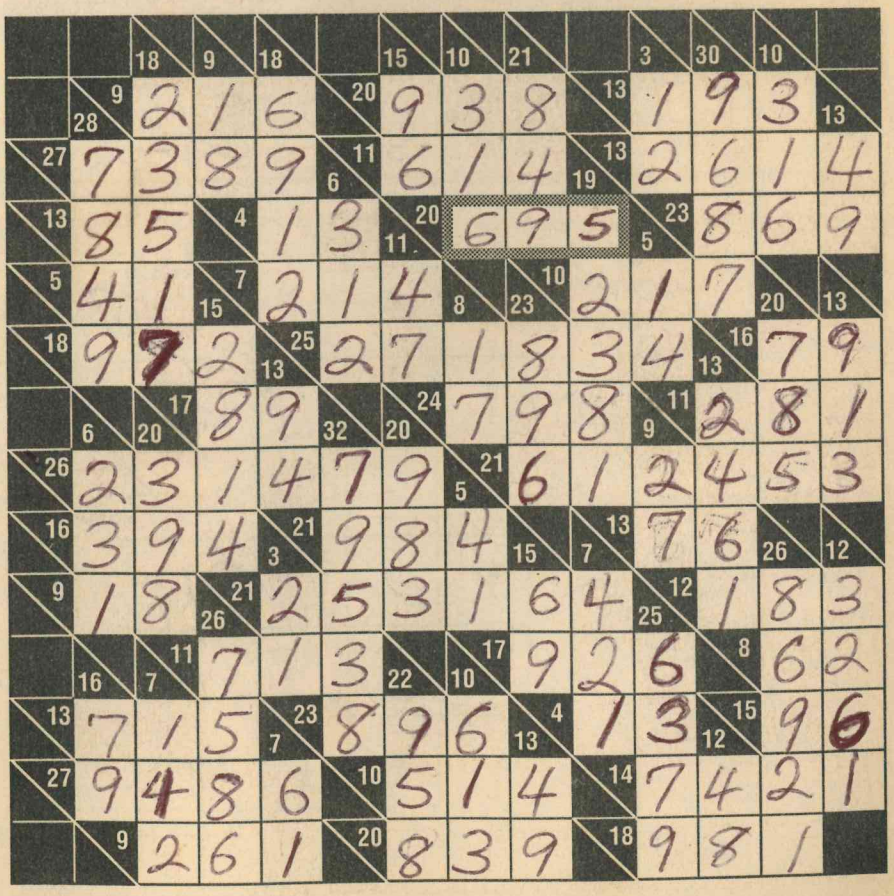
NUMBER 3



Starting helps are on page 66.

Solutions are on page 59.

NUMBER 4



BINGO PLAYS 1

In this puzzle, you are trying to fill your "card" with numbers and make a winning Bingo game. Just as in Bingo, each column has limits set for the numbers that can be placed in that column, as shown at the top of the card. For example, in column B, every square will have a number between 1 and 15 inclusive; in column N, every number will be between 31 and 45 inclusive. Use the given clues to eliminate possibilities within those limits until you can enter one final number in each square. A number will appear only once in any column. The "free" space in the center of the card is just that; you need not enter a number in that square. After you have filled in your card, find the Bingo winning combination: Just as in Bingo, the five numbers in one row, column, or diagonal will fit the clues given. Circle these numbers and you have won the game!

Solution is on page 60.

1. The number one does not appear on the card as a single digit, nor does it appear in row P or Y, column N or O, or square AG or SB.
2. The number two does not appear in row L, column N or G, or square PO, AB, AO, or YO.
3. The number three does not appear in column O or square PN, LB, LI, AB, or YB.
4. The number four does not appear in row A or S, column B, I, or O, or square PG, LN, or YN.
5. The number five does not appear in row L or Y, column N or O, square SB or SI, or in the winning combination.
6. The number six does not appear in row P or S, column B or I, or square AG.
7. The number seven does not appear in column B or I, or square LG, AG, or YG.
8. The number eight does not appear in row P or A, column B or N, or square LO, YI, YG, or SG.
9. The number nine does not appear in row A or S, column B, I or G, or square LB, or in the winning combination.
10. Zero does not appear in column I or G, or square PN.
11. The number 44 is the only double-number combination on the card.

	B 1-15	I 16-30	N 31-45	G 46-60	O 61-75	
P	5	25	44	57	70	P
L	10	18	36	48	69	L
A	15	21	FREE	53	67	A
Y	2	23	39	46	68	Y
S	3	28	37	51	72	S
	B	I	N	G	O	

CROSS NUMBERS

The idea of Cross Numbers is to arrive at the figures given at the bottom and right-hand column of the diagram by following the arithmetic signs in the order they are given (that is, from left to right and top to bottom). Use only the numbers above the diagram to complete its blank squares.

Solutions are on page 60.

1. 1 2 3 4 5 6 7 8 9

	+		+		24
–		X		X	
	X		X		24
X		÷		+	
	–		X		24
25		28		24	

2. 1 2 3 4 5 6 7 8 9

	+		X		40
–		÷		–	
	+		X		16
X		+		+	
	+		+		24
9		9		9	

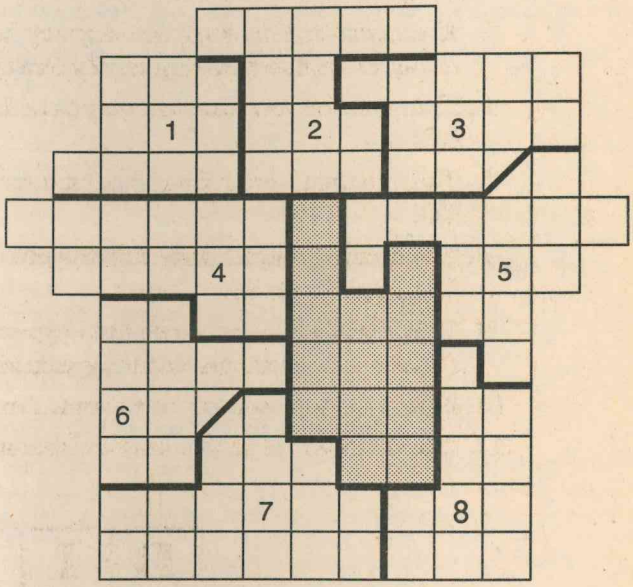
3. 1 2 3 4 5 6 7 8 9

	X		–		5
+		+		X	
	–		X		14
X		÷		+	
	+		+		10
45		5		30	

HALF TIME

The diagram on the right has been broken up into eight numbered areas separated by heavy lines. Which numbered areas would have to be pencilled in so that the whole diagram will be half white and half gray? Any two half-squares can be counted as one square.

Answer is on page 61.

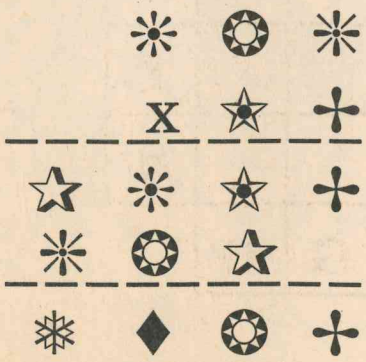


TWO-PART MATH

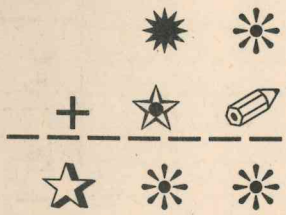
Each of the symbols in the two arithmetic problems below stands for one of the numbers 0 through 9, but no two symbols stand for the same number. Each symbol does stand for the same number through both problems, however, so if you were to replace the upper left ✳ in Problem A with a "3," you would also replace every other ✳ with a 3. By working back and forth from one problem to the other, can you deduce the number represented by each symbol?

Solution is on page 63.

A.



B.



LOGIC PROBLEM

3. ROYAL-TEES **by Mary Marks Cezus**

Audrey and the other three members of the Porter family recently took a long-awaited trip to London. As they explored the sights of London on foot and via the underground and double-decker buses, the Porters always had their eyes out for a special t-shirt to immortalize their trip, and each returned with a t-shirt decorated with a caricature of a different famous figure. No two discovered the "perfect" shirt at the same location, and no two chose shirts with the same background color. Using the clues below, can you determine each Porter's shirt by the famous person caricatured, background color, and the location where it was purchased?

1. The t-shirt with the caricature of Shakespeare (which was not the red shirt) was not purchased near Covent Garden.
2. The t-shirt purchased near St. Paul's Cathedral (which was not bought by Brandon) was not tan.
3. Neither Todd (who did not buy the shirt with the caricature of Jack the Ripper on it) nor the person who bought the gray t-shirt bought a t-shirt near Regent's Park.
4. Neither Heather's shirt nor the blue shirt had the caricature of Shakespeare on it.
5. The person who purchased the t-shirt with the caricature of a Beefeater (who was not Todd) and the one who purchased the t-shirt near Regent's Park (who was not Heather) both wanted to attend a play.
6. The t-shirt bought near the Tower of London (which was not the tan shirt) did not have the caricature of Shakespeare on it.
7. The t-shirt with the caricature of Queen Elizabeth was neither red nor blue.

Shoes
Slippers
Pajamas

Solution is on page 61.

Directions for the use of Logic Problem solving charts are on page 5.

	Beefeater	Elizabeth	Jack	Shakespeare	blue	gray	red	tan	Covent	Regent's	St. Paul's	Tower
Audrey												
Brandon												
Heather												
Todd												
Covent												
Regent's												
St. Paul's												
Tower												
blue												
gray												
red												
tan												

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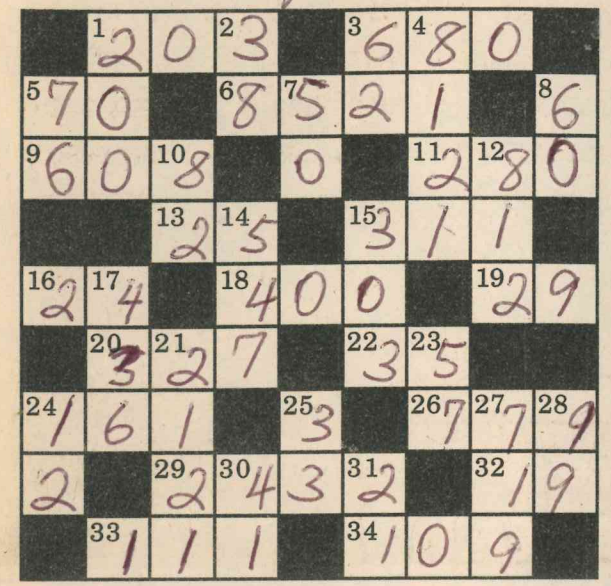
FIGURE LOGICS 2 & 3

by Linda Thistle

Directions for solving Figure Logics are on page 7.
If you need help starting these puzzles, starting helps are on page 66.

Century 21?



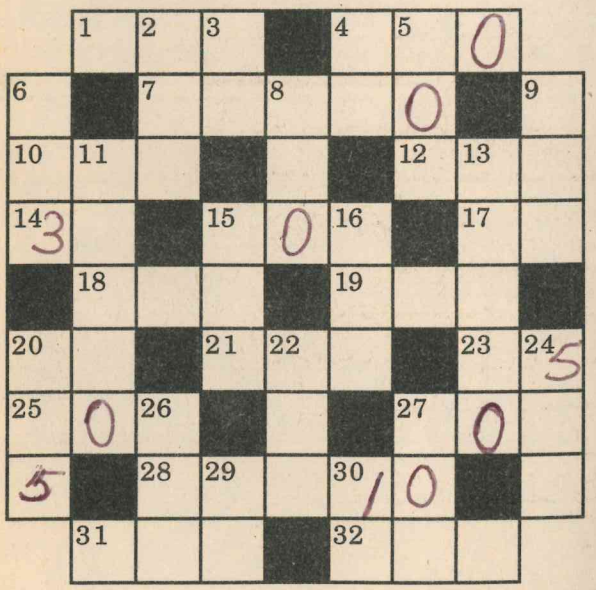
ACROSS

1. Seven times 19-Across
3. 11-Across plus 18-Across
5. Two times 22-Across
6. 18-Across plus 4-Down
9. The digits of 3-Across rearranged
11. Four times 5-Across
13. One more than 16-Across
15. 29-Across minus 21-Down
16. 23-Down minus 25-Down
18. Eight times 7-Down
19. 7-Down minus 31-Down
20. 16-Across plus 15-Down
22. Three less than 2-Down
24. 33-Across plus 7-Down
26. 8-Down plus 27-Down
29. Four times 9-Across
32. Two less than 31-Down
33. 15-Across minus 1-Down
34. One-third of 20-Across

DOWN

1. One-half of 18-Across
2. Two times 32-Across
3. 30-Down plus 31-Down
4. Six thousand more than 21-Down
5. Two times 2-Down
7. Two times 13-Across
8. Five times 24-Down
10. Six more than 5-Down
12. Four times 1-Across
14. 33-Across plus 17-Down
15. One hundred more than 1-Across
17. Four times 34-Across
21. Seven times 15-Down
23. Three less than 8-Down
24. One-half of 16-Across
25. One-third of 28-Down
27. 9-Across plus 33-Across
28. 5-Across plus 19-Across
30. One-half of 10-Down
31. 25-Down minus 24-Down

O dear!



ACROSS

1. 19-Across plus 4-Down
4. One-half of 8-Down
7. 10-Across times 20-Across
10. Seven times 27-Down
12. 4-Down times 30-Down
14. 4-Down plus 30-Down
15. Four less than 27-Down
17. One-fourth of 4-Across
18. 27-Across plus 20-Down
19. 10-Across plus 27-Down
20. 23-Across minus 3-Down
21. Five less than 31-Across
23. Five times 30-Down
25. One hundred more than 15-Across
27. One-half of 9-Down
28. 21-Across times 26-Down
31. 20-Down minus 12-Across
32. 14-Across times 30-Down

DOWN

2. 22-Down minus 12-Across
3. One-third of 17-Across
4. Two more than 3-Down
5. Three times 15-Down
6. 3-Down plus 5-Down
8. Seven more than 6-Down
9. Five times 17-Across
11. 23-Across times 24-Down
13. 14-Across times 22-Down
15. One more than 27-Across
16. 10-Across minus 32-Across
20. Seven times 23-Across
22. 18-Across plus 9-Down
24. 22-Down minus 6-Down
26. 12-Across minus 25-Across
27. 17-Across plus 29-Down
29. One-fourth of 16-Down
30. One-third of 29-Down

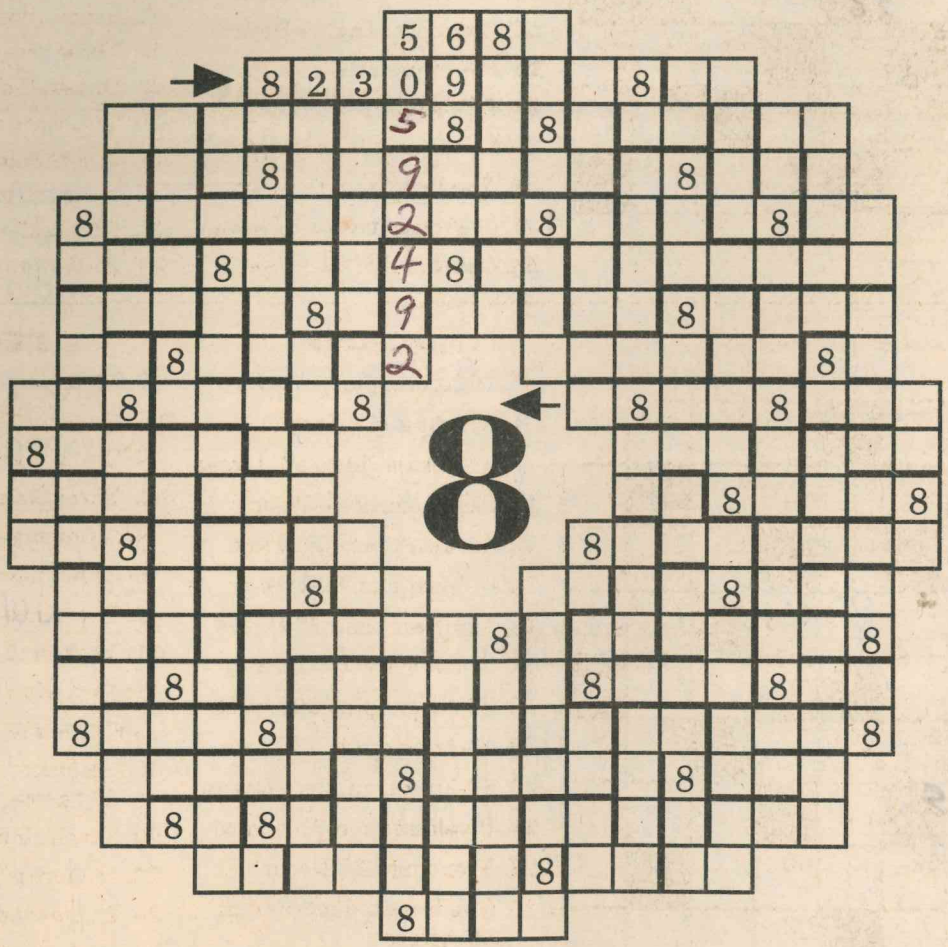
Solutions are on page 60

EIGHT BALL

Starting at the arrow in the top-left corner, see if you can wend your way to Finish by entering the given numbers into the diagram in a continuous chain; that is, the last digit of each entry is the first digit of the next. The correct route through the diagram is marked by heavy lines. All of the 8s have been entered for you, as has the first number in the chain.

Solution is on page 66.

03891728	18312573	38938137	56074086	70756198	83416700
04827813	21603804	39423666	56098030	73280256	83625023
07109147	25083949	41201461	66310248	79089248	83741041
09645087	27209186	42714918	67185197	80190354	84902632
10417495	30408471	45963985	68534780	81087289	89481385
11519823	32620938	~~50592492~~	69398363	~~82305698~~	96198052
14852854	35989925	51529508	70296289	82680610	99307381



WORD ARITHMETIC

Solving directions are on page 8. Solutions are on page 65.

10. POLYTHEISM

0 1 2 3 4 5 6 7 8 9

```
                2184
              LOST
2780   | 6074196
LISP   | EPITOME
         5560
         HHEP
          5141
          HOTO
          2780
          LISP
          23619
          LYEOM
          22240
          LLLTP
            13796
            OYIME
            11120
            OOOLP
             2676
             LEIE
```

11.

0 1 2 3 4 5 6 7 8 9

```
          IDS
BID  | SOUND
       BID
       NDON
       ISDY
         FKDD
         OYKO
           INY
```

12.

0 1 2 3 4 5 6 7 8 9

```
          AGE
EEL  | WANED
       WIF
         GWE
         GFA
           SID
           EEL
           EEI
```

13. ITHELPSYOU

0 1 2 3 4 5 6 7 8 9

```
              617
            STY
9636   | 5955036
USES   | PUPPIES
         57816
         PYOTS
          17243
          TYELE
          9636
          USES
          77076
          YYIYS
          67452
          SYLPH
            9624
            USHL
```

14. GOLDJACKET

0 1 2 3 4 5 6 7 8 9

```
              613
            COD
353    | 216598
DAD    | LOCATE
         2118
         LOOE
           479
           JKT
           353
           DAD
           1268
           OLCE
           1059
           OGAT
             207
             LGT
```

15.

0 1 2 3 4 5 6 7 8 9

```
          ADD
ION  | SNAIL
       ION
       ECEI
       GOAG
         EGDL
         GOAG
           LEE
```

16. COALMINERS

0 1 2 3 4 5 6 7 8 9

```
              428
            MAR
977    | 418237
SEE    | MORALE
         2908
         LSCR
          2743
          AEML
          1954
          OSIM
            7397
            ERSE
            4816
            ERON
              86
              RO
```

17.

0 1 2 3 4 5 6 7 8 9

```
            TAR
TUTU | CITADEL
       CLUDT
         ICTBE
         IRLBA
           BTLBL
           BUCUR
             CCLT
```

18. LATINWORDS

0 1 2 3 4 5 6 7 8 9

```
              412
            NAT
517    | 2130697
WAR    | TAILOR
         2068
         TLOD
           626
           OTO
           811
           WAR
           1097
           ALSR
           1034
           ALIN
             83
             OI
```

LOGIC PROBLEM

4. THE MOTHER-DAUGHTER BANQUET

by Faye Taylor

Mrs. Jones, Mrs. Koon, Mrs. Lee, Mrs. Mix, and Mrs. Nye recently took their daughters (in some order, Mrs. Able, Mrs. Best, Mrs. Cox, Mrs. Dill, and Mrs. Eton) to the annual Retired Women's Club Mother-Daughter Banquet. As it happens, the mother/daughter pairs sat at five different tables 1 through 5. The daughters are all accomplished young women with careers of their own; one is an accountant. From the following information, determine each mother-daughter pair, the table at which they sat, and each daughter's occupation.

1. The attorney's mother and Mrs. Lee and Mrs. Cox's mother all have grandchildren; the mother at table 1 and Mrs. Nye do not.
2. Mrs. Dill is expecting her first child in the next few months; the professor does not plan to have children for several years yet.
3. The engineer, who is not Mrs. Cox, did not sit at table 3.
4. Mrs. Nye and her daughter, who is not the professor, did not sit at table 2 or table 5.
5. Mrs. Mix, whose daughter is not the attorney or the pharmacist, and Mrs. Jones could talk about the grandchildren for hours (and often do).
6. Mrs. Able and Mrs. Eton have children at the same school.
7. Mrs. Eton and the attorney and the daughter at table 5 all attended the same college.
8. The grandmother at table 3 was not Mrs. Jones.

Sleep in Sandy's room—not Kiss all their feet?

Leave on Friday morning at 8:00! Be there at 7:30 a.m.

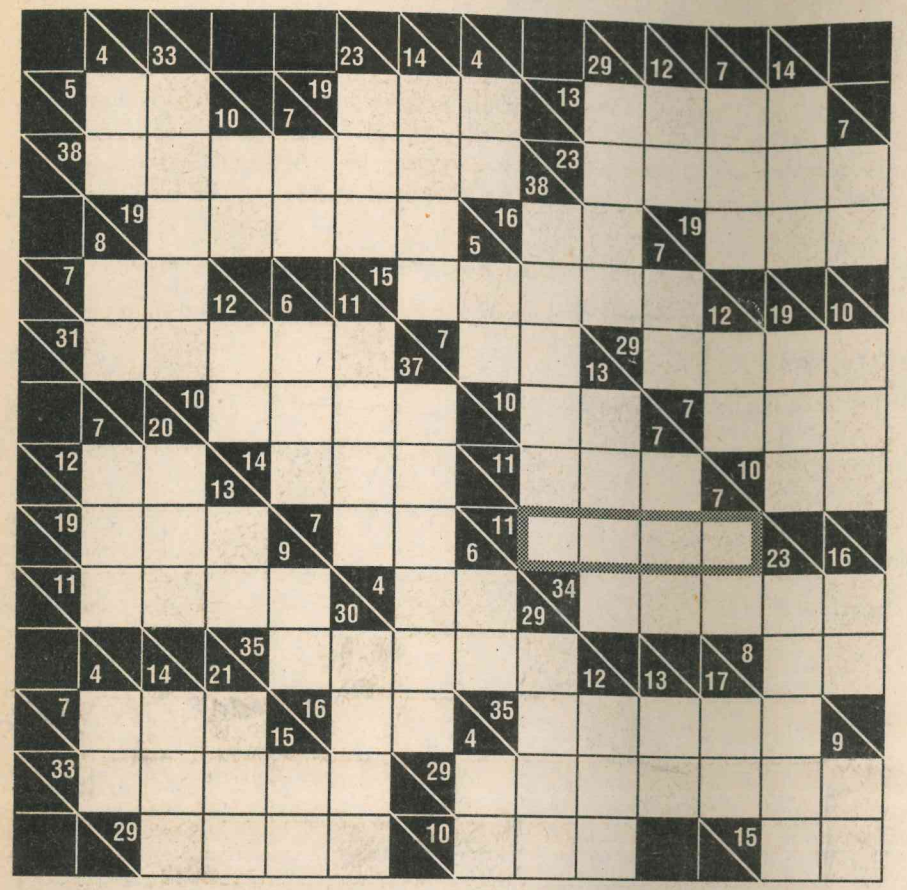
Solution is on page 61.

Directions for the use of Logic Problem solving charts are on page 5.

Cuter than Stacy Ponting... Lesley Seinfeld? or Ally McBeal?

	Able	Best	Cox	Dill	Eton	1	2	3	4	5	acc't.	attor.	eng.	phar.	prof.
Jones								X							
Koon															
Lee			X									X			
Mix												X		X	
Nye						X	X			X					X
acc't.															
attor.			X		X	X				X					
eng.			X					X							
phar.															
prof.				X											
1															
2															
3			X												
4															
5					X										

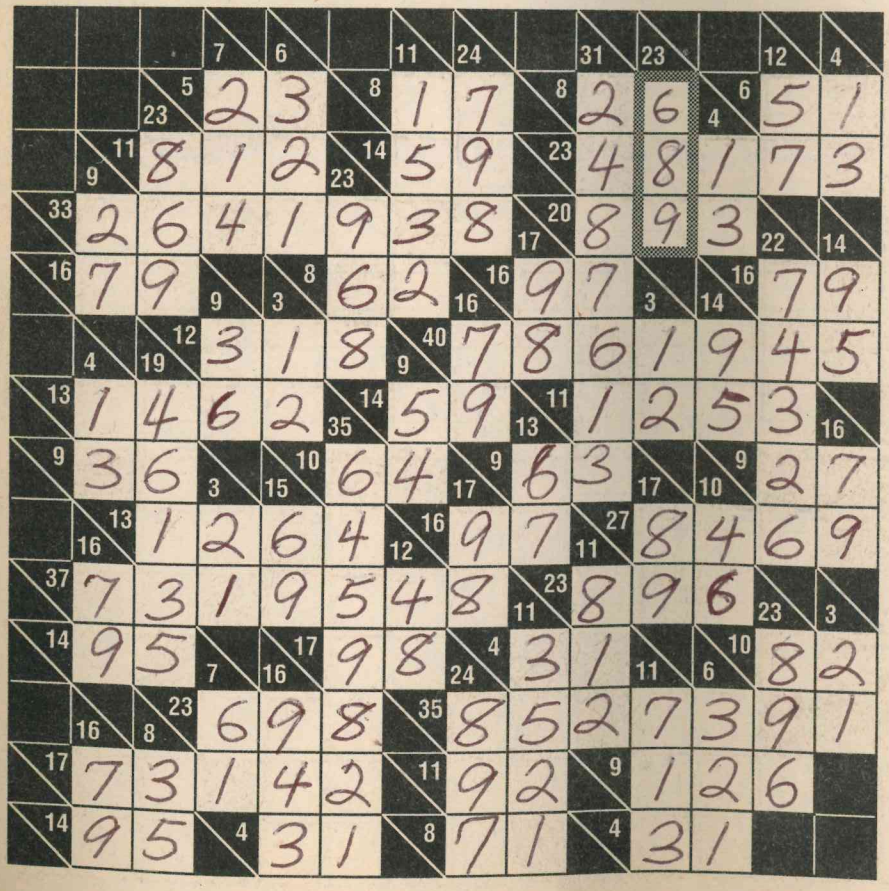
CROSS SUMS



NUMBER 5

We have outlined one area in each diagram on these two pages. If you need help starting a puzzle, the digit combination to go into that area is listed on page 66.

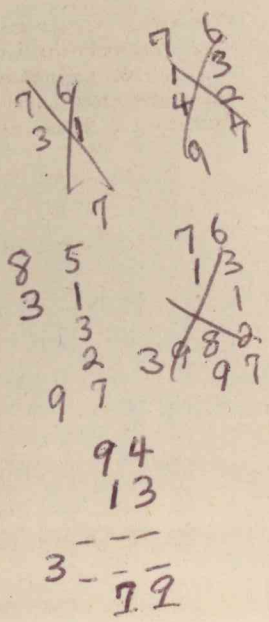
Solutions are on page 59.



NUMBER 6

CROSS SUMS

NUMBER 7



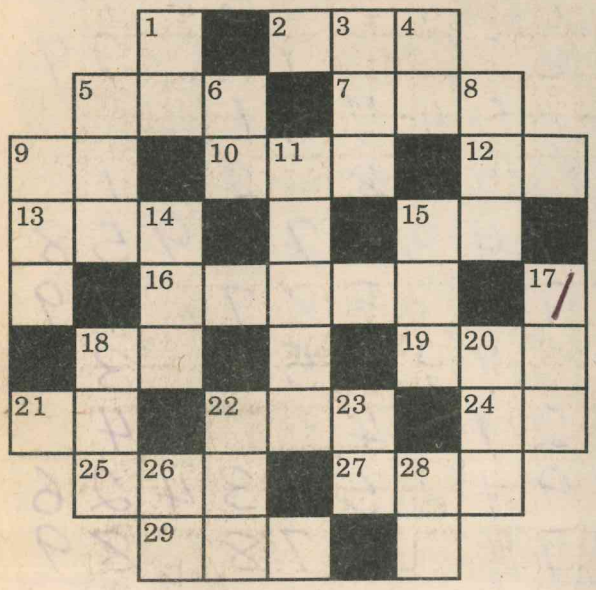
Solutions are on page 59.

NUMBER 8

FIGURE LOGIC 4

by Linda Thistle

Directions for solving Figure Logics are on page 7.
If you need help starting this puzzle, a starting help is on page 66.



Solution is on page 60.

ACROSS

2. Two times 15-Down
5. 19-Across minus 17-Down
7. 27-Across minus 17-Down
9. One-half of 1-Down
10. 18-Across plus 4-Down
12. Two less than 15-Across
13. Three times 29-Across
15. Three times 21-Across
16. Four times 11-Down
18. Three times 6-Down
19. 22-Across plus 15-Down
21. Five less than 9-Across
22. 11-Down divided by 15-Across
24. Four more than 23-Down
25. 5-Down minus 7-Across
27. Two times 22-Down
29. 15-Down minus 20-Down

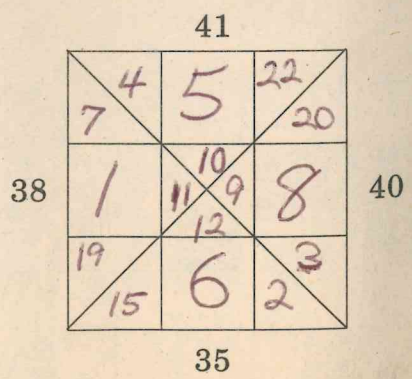
DOWN

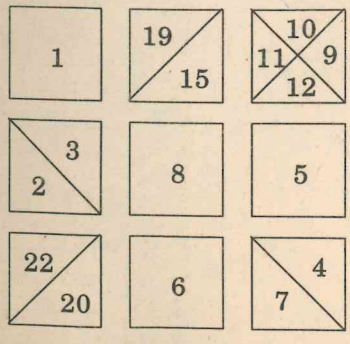
1. Five more than 18-Across
3. Three times 9-Down
4. 12-Across plus 23-Down
5. Six times 17-Down
6. One-eighth of 4-Down
8. One-half of 22-Across
9. 15-Down minus 8-Down
11. 17-Down times 20-Down
14. 8-Down plus 18-Down
15. 18-Across times 28-Down
17. 6-Down times 26-Down
18. One-half of 7-Across
20. 18-Down minus 9-Down
22. 29-Across plus 17-Down
23. Product of the digits of 16-Across
26. 24-Across minus 12-Across
28. One-fourth of 24-Across

TRIANGULAR SQUARE

Can you place the nine numbered squares below into the diagram so that the four numbers in each of the diagram's four large triangles, when added together, equal the number given next to that triangle? Each square's pattern must match the pattern of the diagram square in which it is placed, and you may not rotate the squares.

Solution is on page 66.





NUMBER PLACE

In these puzzles, your job is to place a number into each box so that each row across, each column down, and each small 9-box square within the larger square (there are 9 of these) will contain each number 1 through 9. Remember that no number may appear more than once in any row, column, or 9-box square; this will help you solve the puzzle.

Solutions are on page 60.

1.

		3			1	5		8
9			2	8			3	
	4		7			1		
	5	6			3		7	
1			8		4			5
	8			6		2	4	
7			9			6		3
8		9		5			1	
	3			4	2			7

2.

7	8	1	6	9	2	5	4	3
2	5	3	4	7	1	9	8	6
4	9	6	8	3	5	7	1	2
8	2	7	1	4	6	3	9	5
1	3	9	5	2	7	4	6	8
6	4	5	3	8	9	2	7	1
9	6	4	2	5	8	1	3	7
3	1	2	7	6	4	8	5	9
5	7	8	9	1	3	6	2	4

3.

5	2	9	6	3	1	4	7	8
3	1	4	7	8	5	2	9	6
6	7	8	2	4	9	1	3	5
1	5	6	9	2	4	7	8	3
8	3	7	5	1	6	9	4	2
9	4	2	3	7	8	6	5	1
2	9	5	4	6	3	8	1	7
4	6	1	8	5	7	3	2	9
7	8	3	1	9	2	5	6	4

It's Stinko de Mayo!

4.

4			9	7			1	
	5				8	6	4	
		9	3					8
		5		1		9		
2	3		8				6	
	7				2			5
8			5		7		3	
3		6		8		2		
	4			6			9	1

5.

8			4					2
		5		8	9		4	
	2		3			6		
		1	8			5		7
9		7		6			1	
	5				4			3
	4			2	5			
7			6			9	3	
	6				1			8

6.

		4		8	1	3		
	3		7				6	
8					5			9
5			4			2		
	8			7		9		1
6		7			9		3	
		3		6			8	2
	5		9		3			4
2				5		7		

Hawaii — ~~$559~~ $600 for 2 people

DEDUCTION PROBLEM 2

Recently, the Browns, Waltons, and Smiths met while vacationing at a mountain resort. Ed, Jim, and Rick, and their wives Dora, Barbara, and Jean (not necessarily respectively) found that they had some things in common. Ed and the lawyer attended the same college. Mr. Smith, who works in the private sector, recently met a man who works in Rick's field. Jim's wife and Mrs. Walton both grow violets; Barbara grows roses. Ed and the businessman served in the Navy, while Mr. Brown served in the Air Force. Dora and the businessman's wife are members of different chapters of the same club. The men are a lawyer, a businessman, and a government employee. Can you determine each couple's full names and husband's occupation?

Answer is on page 61.

LOGIC PROBLEM

5. THE TEMPS

by Randall L. Whipkey

The Temps is an employment agency specializing in temporary office help. Last week, Carol and four other women received assignments, one woman at a law firm. Each of the five assignments was for a different number of days, from one to five. From the clues below, can you determine each woman's full name, the type of client who hired her, and the number of days for which she was engaged?

1. Andrea was hired for one more day than Ms. Wilson, who was hired for one more day than the woman who worked for the accountants.
2. Ms. Young, whose first name isn't Andrea, wasn't hired by the stockbrokers.
3. Betsy, who didn't work for the accountants, isn't Ms. Valley.
4. Ellen was hired for two more days than Ms. Young.
5. Ms. Wilson wasn't the one hired by the physicians.
6. Ms. Thomas was hired for two more days than the woman who worked for the stockbrokers, who was not Ms. Stevens.
7. Ellen wasn't the woman hired by the stockbrokers.
8. Denise isn't Ms. Thomas.
9. Ms. Stevens didn't work for either the physicians or the dentists.

Solution is on page 61.

Directions for the use of Logic Problem solving charts are on page 5.

	Andrea	Betsy	Carol	Denise	Ellen	acc't.	dent.	law.	phys.	stock.	1	2	3	4	5
Stevens															
Thomas															
Valley															
Wilson															
Young															
1															
2															
3															
4															
5															
acc't.															
dent.															
law.															
phys.															
stock.															

BINGO PLAYS 2 & 3

Solving directions and Bingo Plays 1 are on page 12.

Is the Sandy Becker show over?

1. The number one does not appear on the card in column G or O or square PI, LI, YI, or YN.
2. The number two does not appear in row A, column N or O, square SI, or in the winning combination.
3. The number three does not appear in row A, column I or G, or square PB, YB, YO, or SB.
4. The number four does not appear in row L or S, column B or N, square AO, or in the winning combination.
5. The number five does not appear in row P or L, column N, or square YB, YI, YO, or SB.
6. The number six does not appear in row Y, column N, or square PI, LI, or SG.
7. The number seven does not appear in row P, A, or S, column N, or square LI, LO, or YG.
8. The number eight does not appear in column G or O, square PN, LN, AI, YN, or SI, or in the winning combination.
9. The number nine does not appear in row A, column G, or square PI, PN, LI, YI, YN, or SO.
10. Zero does not appear in row Y or square PI, LI, AG, SB, or SG.
11. The number 33 is the only double-number combination on the card.
12. The number 6 is the only single-digit number on the card.

	B 1-15	I 16-30	N 31-45	G 46-60	O 61-75	
P						P
L						L
A			FREE			A
Y						Y
S						S
	B	I	N	G	O	

---

1. The number one does not appear on the card in row A, column N or O, or square LB, YB, or YI.
2. The number two does not appear in row A, column B, or square PI, PO, LI, LO, YG, or SO.
3. The number three does not appear in column G, square PB, PO, AB, AO, SB, or SN, or in the winning combination.
4. The number four does not appear in row Y, column B or O, or square SI or SG.
5. The number five does not appear in row S, square PG, PO, LG, YI, or YN, or in the winning combination.
6. The number six does not appear in column B or N, or square PG, LG, AG, or YI.
7. The number seven does not appear in row S, or square PO, LI, LO, AB, AG, YB, YI, YG, or YO.
8. The number eight does not appear in row A or Y, column B, I, or O, or square PG or LN.
9. The number nine does not appear in row P or L, column B or O, or square AG, YN, YG, or SI.
10. Zero does not appear in column N, or square AO, YI, or SI.
11. The number 66 is the only double-number combination on the card.
12. The number 65 is the only consecutive-digit combination, in either order, on the card.

	B 1-15	I 16-30	N 31-45	G 46-60	O 61-75	
P						P
L						L
A			FREE			A
Y						Y
S						S
	B	I	N	G	O	

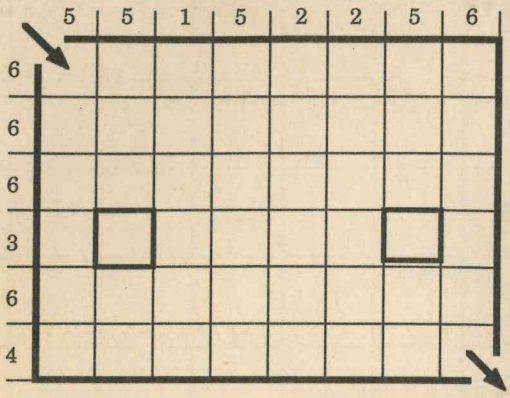
Solutions are on page 60.

MATH MAZES

The goal here is the same as in any maze: Draw a single line from start to finish without crossing your own path. What makes these special, though, is that you'll have to use some deductive reasoning to find your way. Each maze is divided into squares; the number at the beginning of each row and column tells you exactly how many of those squares to cross through in order to correctly reach the finish. For example, in the first maze, the number 6 is at the beginning of the first row across; this means you must cross through six of the boxes in that row once each. You need not cross through all of them at once; you may leave a row or column and return to it — you might cross the first box of the first row, then turn downward, but you would have to return to the first row later so that you use exactly six boxes before you finish the maze. No diagonal moves are allowed. Solving hint: To begin, blacken any box that you determine will not be used, and place a dot in any box that you know must be used.

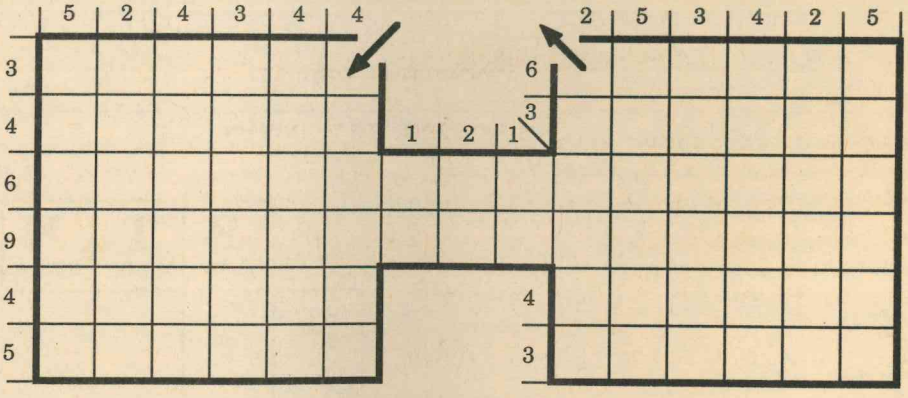
Solutions are on page 66.

1.

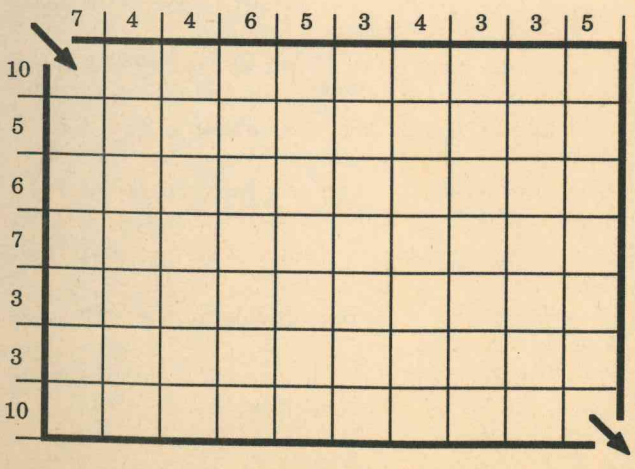


Are you flirting with me, RENÉ?

2.



3.



LOGIC PROBLEM

6. TRAVELS WITH PETS

by Mary Powell

When Frank and Brenda Starkey finally got their last child out of the nest, they decided to do some traveling. Because they'd never had time to travel before, they joined a local travel club to get tips from the experts. The first and most consistent bit of advice they received was "Rent a small mobile home or travel van for a week, just to see if you like it." So, that's just what the Starkey's did, and when the group made its next short excursion, the Starkeys were in the party. The first stop was an easy drive from home and, by midafternoon, all were settled into the site and Brenda had met all the others. She was surprised that four of them had brought pets along. "Oh, we always bring them," one woman said. "They're part of the family." Frank was surprised that half the six pets were cats. Over the next few days, he discovered that these particular cats were as good at traveling as the other pets. From the following clues, can you find the full names of the four pet owners, as well as the name and type of each one's pet, and the order in which they arrived at the site?

1. Donald travels with two male pets; Ms. Hartley travels with two female pets (neither has the rabbit).
2. Neither Charles nor Jennings travels with the male pet named Fluffy.
3. Male pet Mike's owner arrived just before Hop's owner and just after Sam's owner.
4. Between them, Robin and Gibson have three pets; they are not all the same type.
5. Murphy and Hip disliked each other at their first meeting, and still barely tolerate each other; neither belongs to Valerie.
6. Fluffy's owner arrived just before Yoder, who arrived just before the person with two dogs.
7. Hip and her littermate have traveled together since they were babies; they get along together very well.

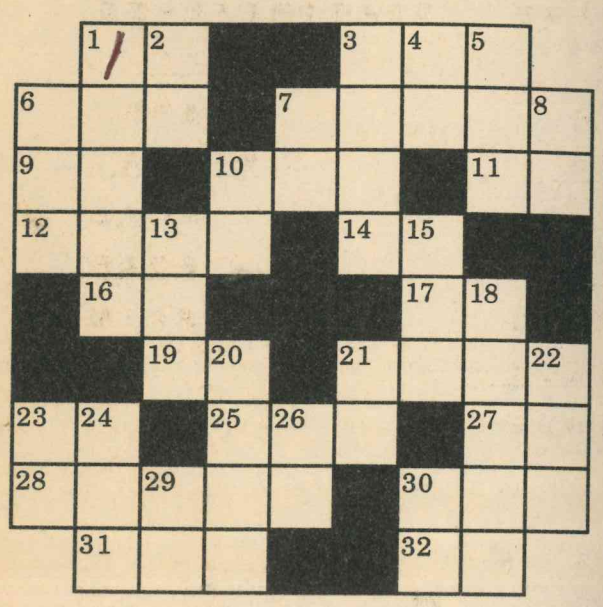
Solution is on page 61.

Use the space below to solve.

FIGURE LOGIC 5

by Linda Thistle

Directions for solving Figure Logics are on page 7.
If you need help starting this puzzle, a starting help is on page 66.



Solution is on page 60.

ACROSS

1. One-third of 7-Down
3. 10-Down times 21-Down
6. Four times 32-Across
7. 14-Across times 25-Across
9. One-third of 16-Across
10. One-half of 6-Down
11. Two more than 4-Down
12. 17-Across times 17-Across
14. One less than 26-Down
16. 1-Across plus 23-Down
17. The digits of 23-Across reversed
19. 11-Across plus 2-Down
21. 11-Across times 11-Across
23. Eight less than 16-Across
25. 5-Down plus 6-Down
27. 19-Across minus 1-Across
28. Seven times 3-Down
30. 7-Down times 8-Down
31. Three times 17-Across
32. 14-Across plus 7-Down

DOWN

1. 5-Down times 23-Down
2. Two times 29-Down
3. 26-Down times 26-Down
4. 27-Across minus 29-Down
5. One-half of 15-Down
6. 21-Down times 21-Down
7. The digits of 19-Across reversed
8. 11-Across minus 2-Down
10. One more than 21-Down
13. 5-Down plus 24-Down
15. 30-Across minus 6-Across
18. 30-Across times 32-Across
20. 12-Across minus 22-Down
21. 9-Across minus 29-Down
22. 27-Across times 21-Down
23. Six times 1-Across
24. 1-Across times 27-Across
26. 7-Down plus 10-Down
29. 6-Across divided by 7-Down
30. One less than 32-Across

BLACK MAGIC

Blacken in exactly ten of the empty squares in each grid below in such a way that each numbered square accurately indicates how many immediately adjacent squares are black. For example, a square containing "3" indicates that three and only three of the adjacent squares, moving horizontally, vertically, or diagonally, are black. It may be helpful to mark any square that you decide is not black with "0." Solutions are on page 60.

1.

			3		2	
		4		5		0
1		4	4			
			2			
	3					

608 Bottles of Heineken!

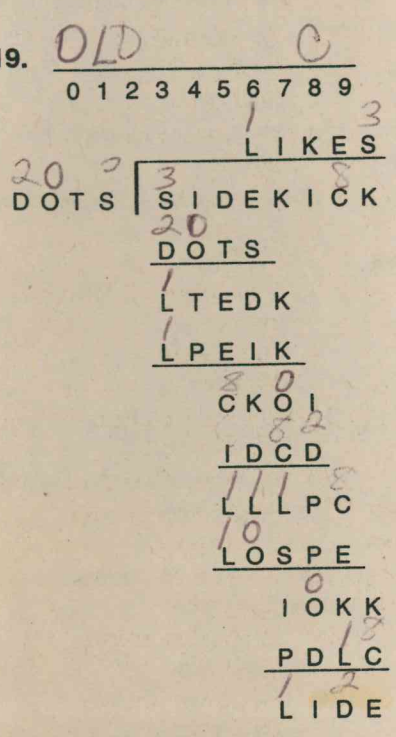
2.

				2		
2		3				
			1	2	2	
	3					
						3
	0					
				2	0	

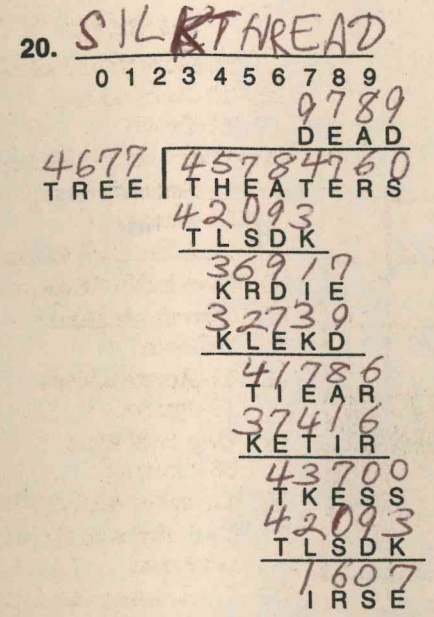
WORD ARITHMETIC

Solving directions are on page 8. Solutions are on page 65.

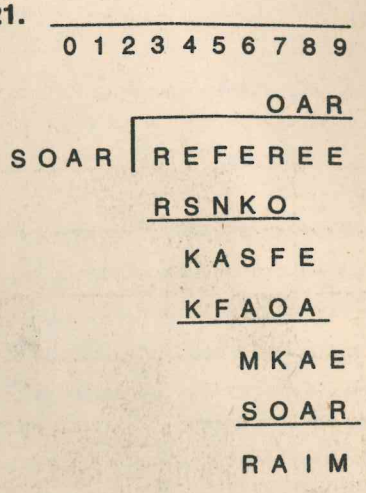
19.



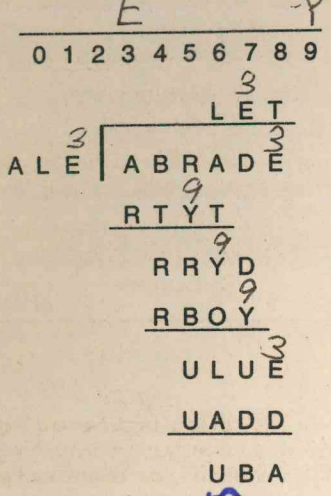
20.



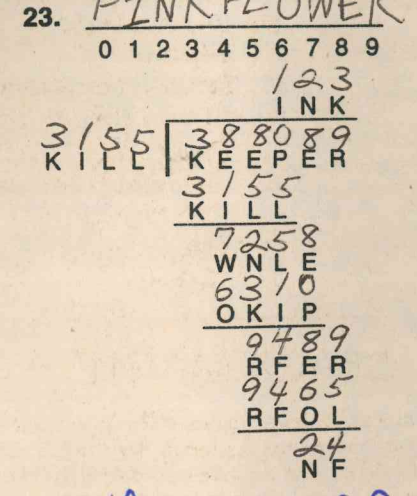
21.



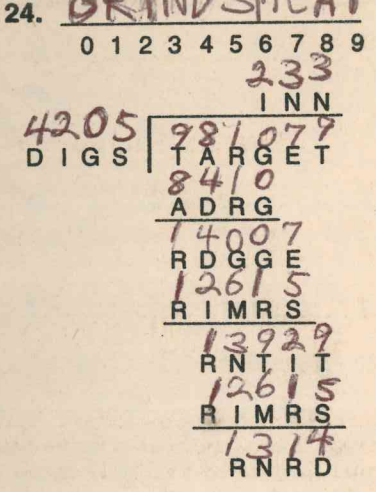
22.



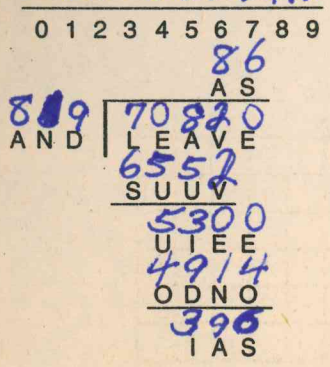
23.



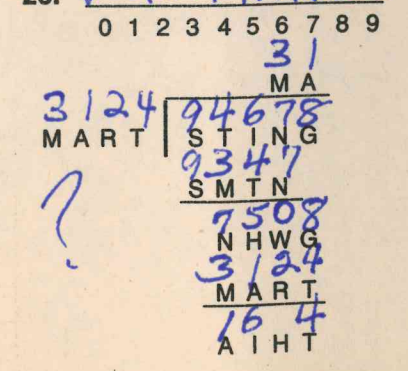
24.



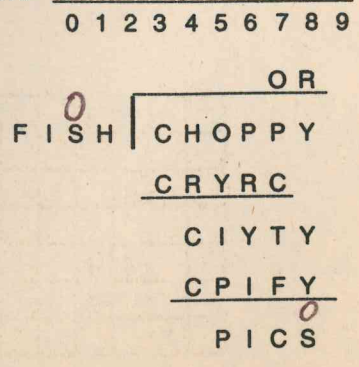
25.



26.



27.



LOGIC PROBLEM

7. OUT ON A LIMO

by Mark Zegarelli

Limousine driver Max Labrador is looking at a long shift today. He has five clients, including Mr. Leinson, whom he's scheduled to pick up in five different towns (one in Northport) and deliver to five different airports. From the information below, can you determine each client's pickup town, airport, airline (one is taking EagleAir), flight number, and destination, as well as the order in which Max will pick them up?

1. The five customers, in no particular order, are the one being picked up in Sea Girt, the one being picked up in Moriches, the one going to JFK Airport, the one flying Sprint Airlines, and the one flying Continental Airlines.
2. Ms. Hartka and the client taking flight 811 are, in some order, the person taking Continental Airlines and the one from Oyster Bay.
3. Two pickups after dropping off the client flying to Nantucket, Max is taking a customer to LaGuardia Airport.
4. Max will pick up the customer taking LinkAir right after the person flying to Atlanta.
5. Two clients after Mr. Driscoll, Max will drive the one who's taking Sprint Airlines.
6. The client from Sea Girt isn't flying to Boston.
7. The five clients, in no particular order, are: Ms. Easton, the one going to MacArthur Airport, the one going to Allaire Airport, the one taking flight 811, and Max's second scheduled customer.
8. Two trips after delivering a customer for flight 13, Max will drive the person who's flying to Portland.
9. Two stops after driving the customer from Oyster Bay, Max will pick up Ms. Paoli.
10. Max won't drive to MacArthur Airport immediately before dropping off the client taking flight 207.
11. He will drive to JFK Airport two trips after driving to Newark Airport.
12. Ms. Easton and the client from Deal are, in some order, the person going to Newark Airport and the one flying United Airlines.
13. The client taking flight 65 isn't from Deal.
14. Max will pick up the person who's flying to Baltimore either two trips before or two trips after driving the client taking flight 925.

Solution is on page 62.

Use the space below to solve.

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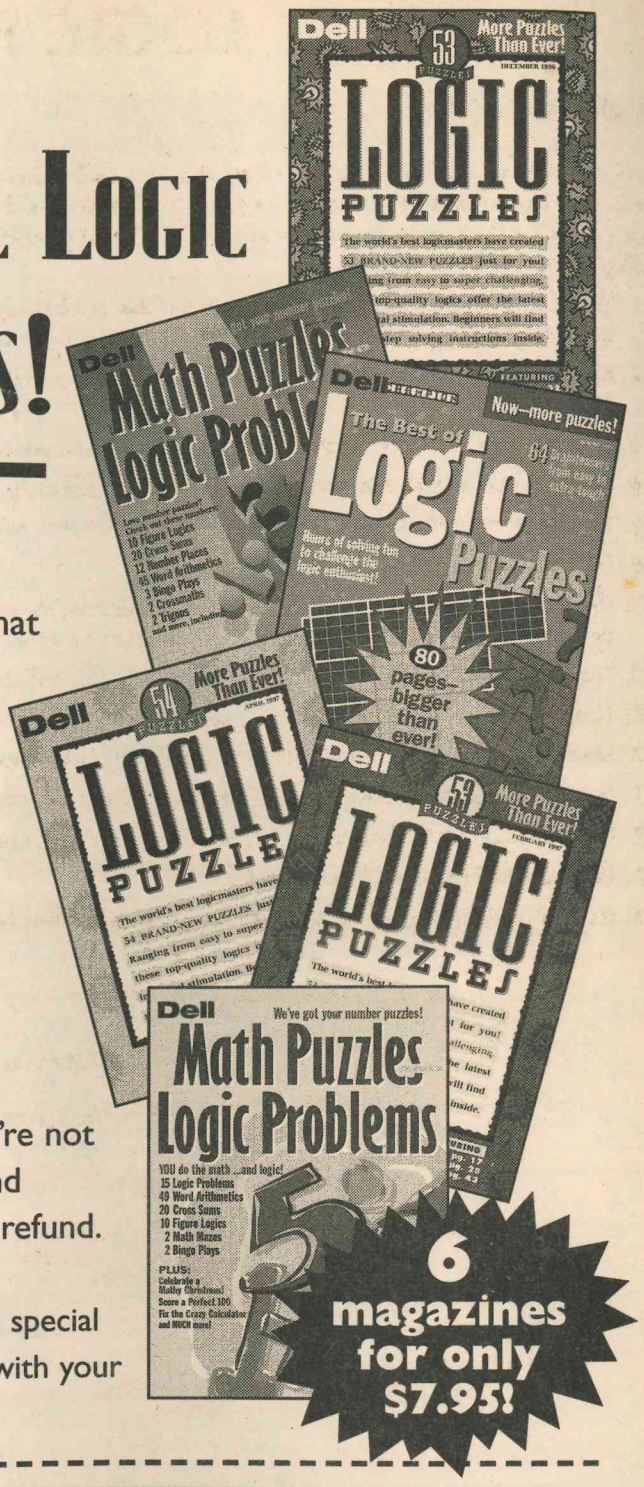

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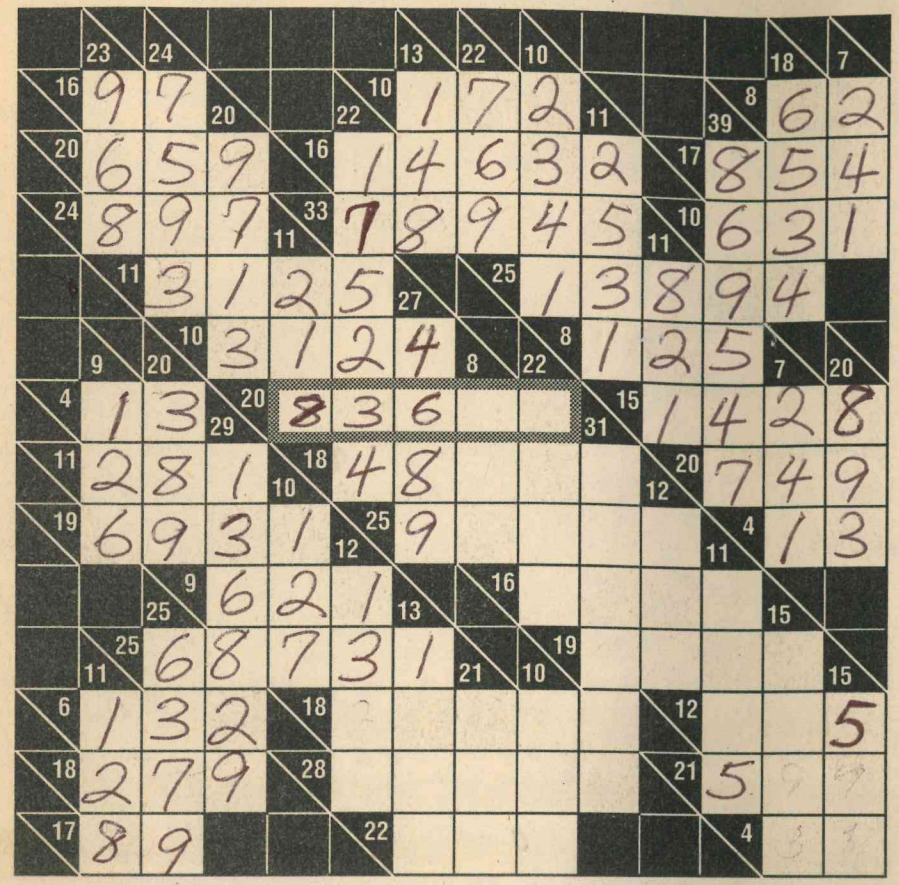
CROSS SUMS



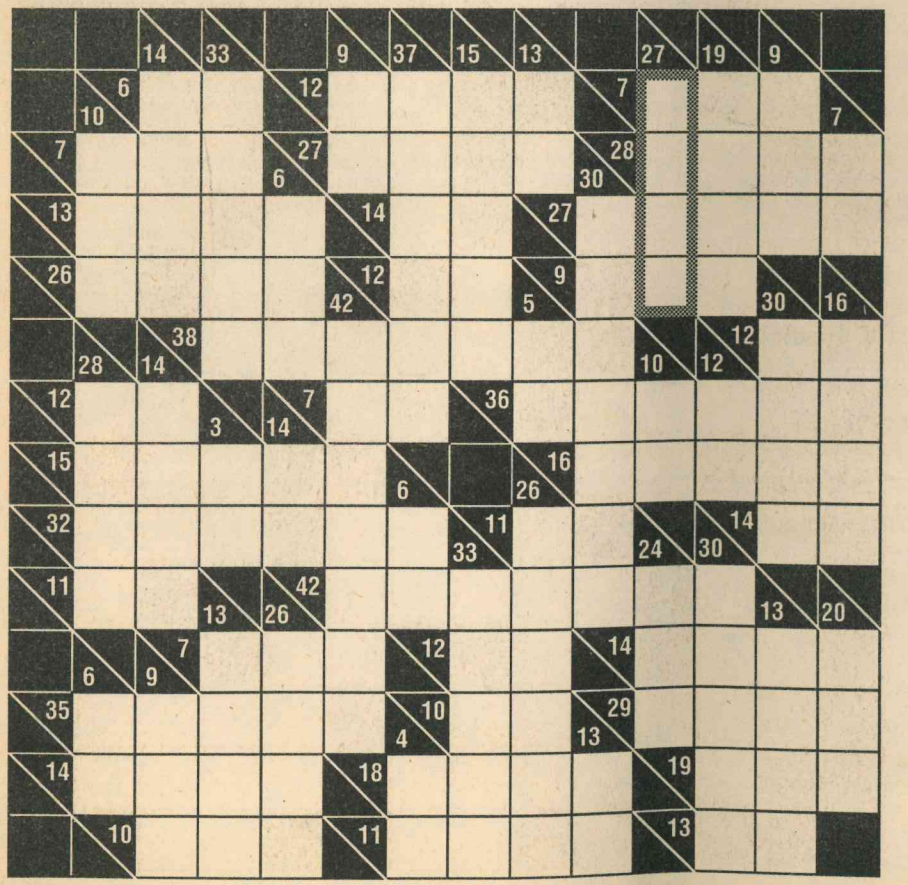
NUMBER 9

We have outlined one area in each diagram on these two pages. If you need help starting a puzzle, the digit combination to go into that area is listed on page 66.

Is that a real girl or what?

$9.45 for a Diet Coke?

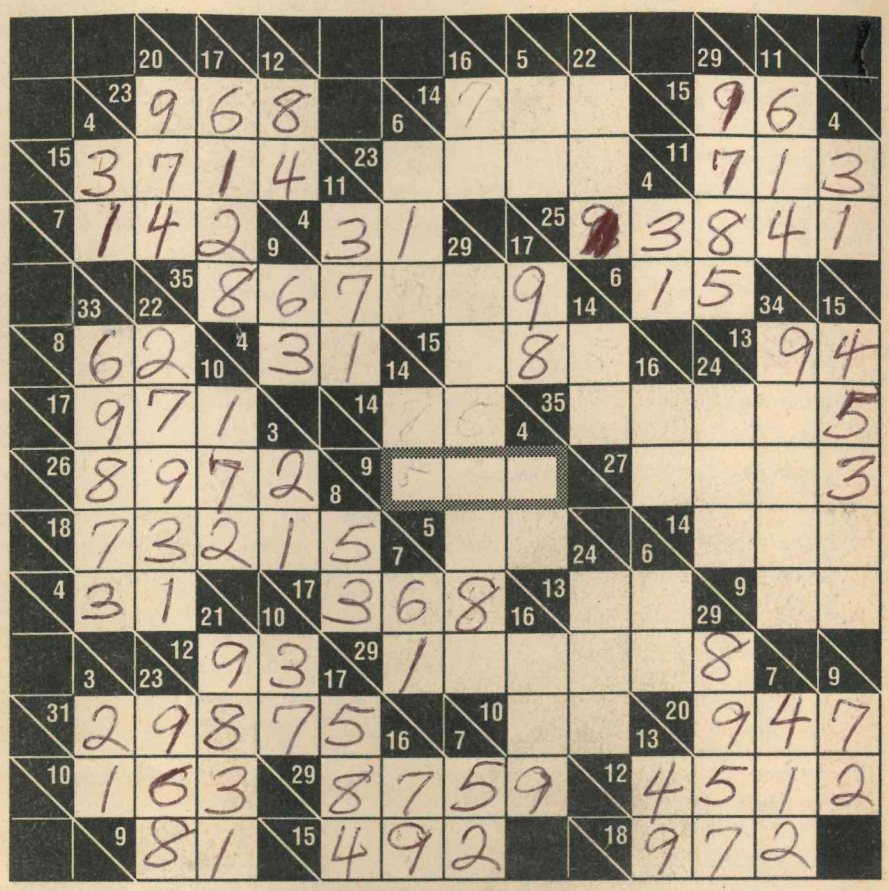
Solutions are on page 59.



NUMBER 10

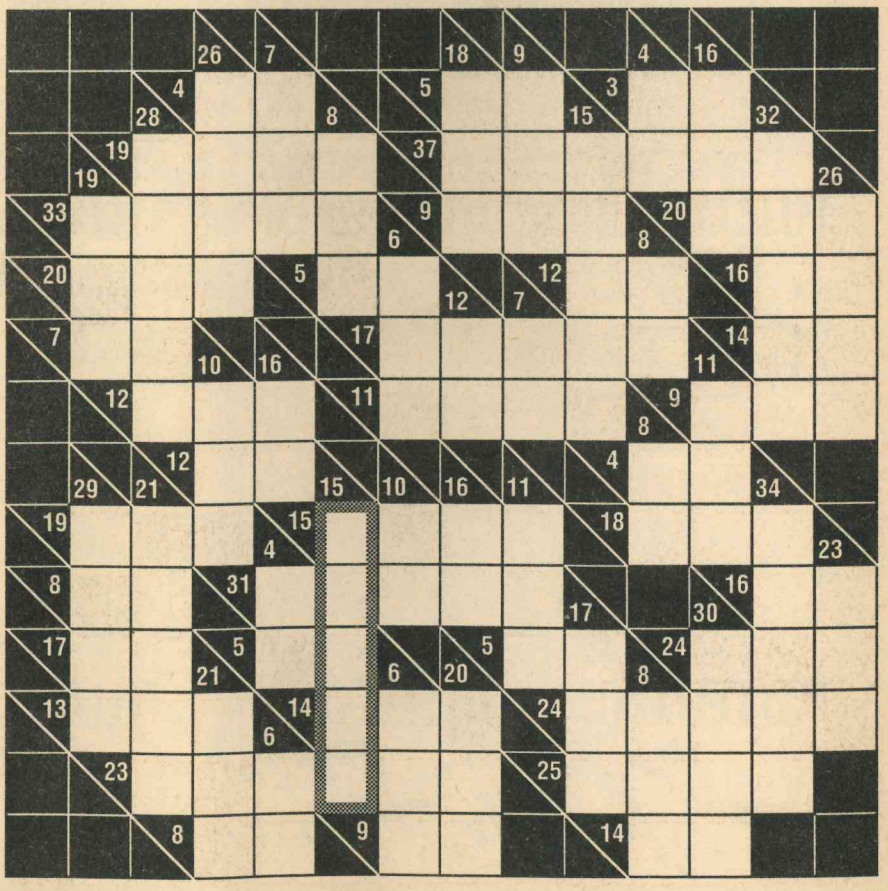
CROSS SUMS

NUMBER 11



Solutions are on page 59.

NUMBER 12



LOGIC PROBLEM

8. STAG LINE

by Jean Hannagan

Last fall, the women of Misty Harbor captured the top eight prizes in the cooking category at the county fair. During the winter, Jon and the other seven husbands got together and decided to enter the competition this year, each preparing his own special recipe. Having so many men in the competition was so unusual that the fair organizers set up a special row of booths with signs at each end proclaiming "Stag Line!" The booths were numbered 1 through 8, as shown below. From the following clues, can you determine each cook's full name (one last name is Tanner), specialty (one made crab dip), and booth number?

1. Al and Cal decided that end booths would attract the most attention, and ended up in opposite corners. The taco chef agreed and grabbed one of the remaining corners. Lon (who didn't sell meatballs) laughed, and said his middle booth would be more popular than theirs.
2. Minestrone and chili were sold in booths facing each other; neither of these was occupied by Mr. Grayson.
3. Browning's booth was directly between Redmond's and Greenfield's (who didn't make chili).
4. Sal was located directly between the meatball chef and Cal (who didn't sell curry) and directly opposite Hal (who isn't Goldman). Curry was in an end booth.
5. The quiche baker had a booth on the north side. Goldman, who didn't make quiche, was worried that Blackmon would score higher points, and kept looking across and down the row at him; Blackmon was convinced his middle booth would take first prize.
6. Ron and Don had booths on the same side.
7. Barbecue was sold in one of the middle booths.
8. Whitman (who is not Don) occupied the booth opposite Al's (who didn't sell curry).
9. Redmond's booth number was more than three away from Grayson's, whose booth number was exactly twice Blackmon's.
10. The man who sold tacos (who was not Ron) had a higher booth number than the barbecue chef's.

Solution is on page 62.

The diagram below was found to be of most use in solving this Logic Problem.

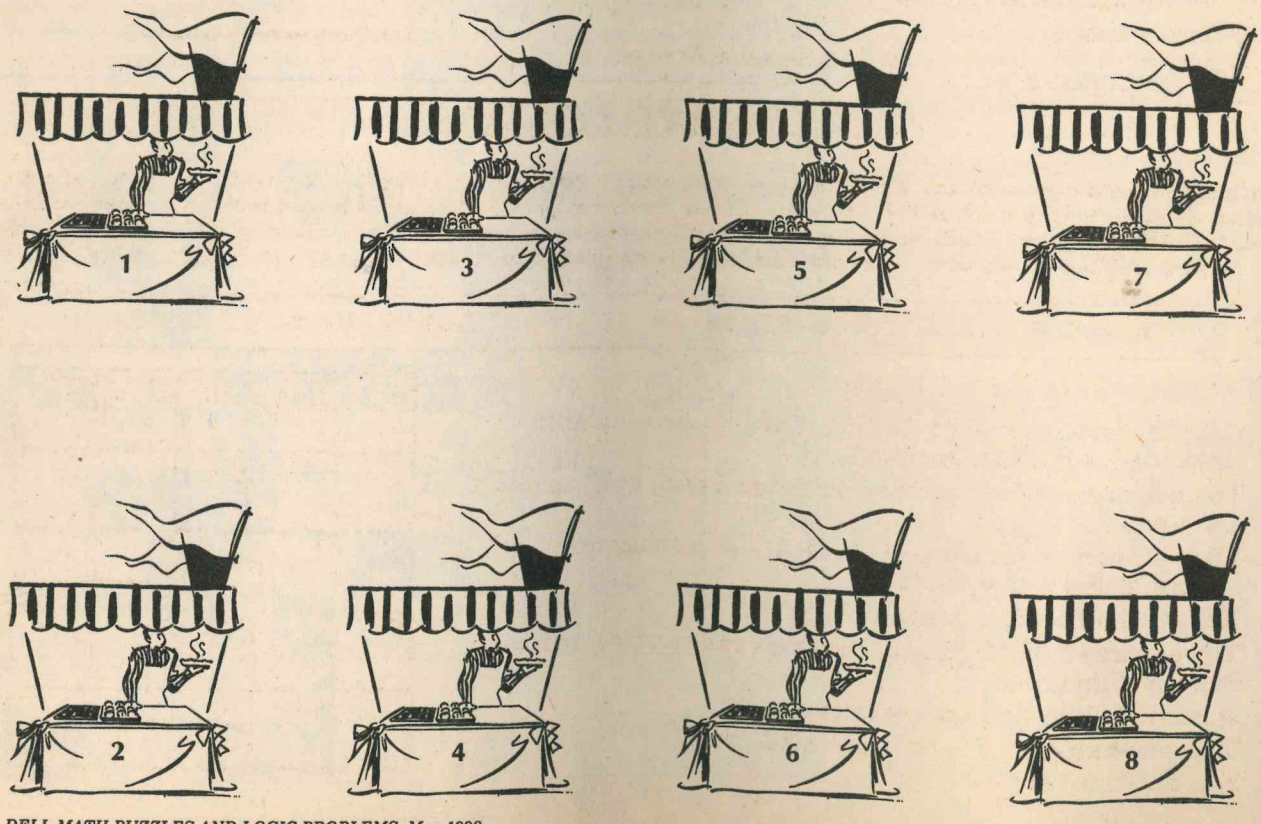


FIGURE LOGIC 6

by Linda Thistle

Directions for solving Figure Logics are on page 7.
If you need help starting this puzzle, a starting help is on page 66.

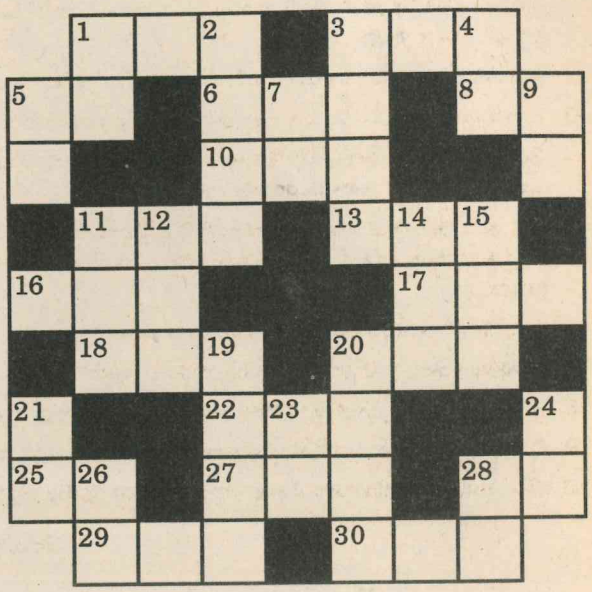
NOTE: In this puzzle, X is a set of three digits, arranged differently each time X appears as a clue. Y is another set of three digits and Z is another set.

ACROSS

1. Y
3. Z
5. One-half of 20-Across
6. X
8. Sixty less than 5-Down
10. Three times 24-Down
11. X
13. X
16. Three times 27-Across
17. Z
18. Y
20. Y
22. Z
25. 29-Across divided by 1-Down
27. 28-Across times 23-Down
28. Two times 1-Down
29. Y
30. X

DOWN

1. One-third of 26-Down
2. 5-Across times 5-Across
3. Five times 18-Across
4. 7-Down minus 28-Down
5. 21-Down plus 26-Down
7. 9-Down minus 25-Across
9. Seventy more than 4-Down
11. Nine times 26-Down
12. 29-Across plus 24-Down
14. 11-Across plus 20-Across
15. Four times 1-Across
19. Two times 14-Down
20. 1-Across plus 16-Across
21. Three times 4-Down
23. One-ninth of 24-Down
24. 22-Across minus 17-Across
26. 30-Across minus 18-Across
28. Two times 8-Across



Solution is on page 60.

SQUARE LOGIC

Each letter in the diagram below stands for a number from 1 through 25. Using the ten clues, can you deduce the number represented by each letter? As you will see from the clues, when all the numbers have been correctly entered into the diagram, it will be a Magic Number Square. As each number from 1 through 25 is used only once (clue 1), you will find it helpful to cross out each number as you place it in the diagram. **Solution is on page 60.**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

CLUES

1. Only the whole numbers 1 – 25 are used. Each number is used once, and all 25 are used.
2. The five numbers in each row across and each column down add up to 65.
3. The four corner squares – A, E, U, Y – and the center square M also add up to 65.
4. E is one-half of U; U is one-third of N.
5. The squares J, H, T, K, and A contain consecutive numbers in ascending order.
6. Q is one-half of L; L is one-ninth of A.
7. W is one-half of F; F is one-half of G.
8. X is one-third of C.

No Z?

A 18	B	C	D	E 4
F	G	H 15	I	J 14
K 17	L 2	M	N 24	O
P	Q 1	R	S	T 16
U 8	V	W	X	Y

WORD ARITHMETIC

Solving directions are on page 8. Solutions are on page 65.

28.

0 1 2 3 4 5 6 7 8 9

```
        213
      WOE
360 | 76839
EAT | CAKES
    720
    CWT
    483
    LKE
    360
    EAT
    1239
    OWES
    1080
    OTKT
    159
    ORS
```

29.

0 1 2 3 4 5 6 7 8 9

```
          AYE
RARE | COWERED
     CHIYD
     YIAIE
     HAIAR
       RHRHD
       AEHWH
         YAHY
```

30.

0 1 2 3 4 5 6 7 8 9

```
          CRY
VIVID | DISCARD
      VIVID
      COYYVR
      CIODSC
        AYDVAD
        AAIAIE
          ACAVO
```

31.

0 1 2 3 4 5 6 7 8 9

```
      VEAL
YE | SCALE
   RV
   VVA
   VAE
     LL
     YE
     ASE
     AKN
      AE
```

32.

0 1 2 3 4 5 6 7 8 9

```
        TOE
IDLE | LONGED
     OOAI
     NLTEE
     NANDA
       NNAGD
       NUTOG
         NEAL
```

33.

0 1 2 3 4 5 6 7 8 9

```
        FAR
ALL | LARGER
    LHGT
      WFGE
    FAUT
      WRER
      WFRL
        EGU
```

34.

0 1 2 3 4 5 6 7 8 9

```
        121
      EWE
850 | 103541
PIN | ENTIRE
    850
    PIN
    1854
    EPIR
    1200
    EMNN
    1541
    EIRE
     850
     PIN
     691
     UHE
```

35.

0 1 2 3 4 5 6 7 8 9

```
        IS
KITS | INSIST
     TCNSS
       SOOAT
       GCCOS
         NNCL
```

36.

0 1 2 3 4 5 6 7 8 9

```
        DO
DUO | NOTED
    NRID
      AYD
      DUO
      ODE
```

NUMBERAMA

Can you discover the logical pattern for each number sequence below and thereby discover the missing number (shown by the dash)? For example, for

26 16 20 11 ___ 7 11 4 8

the solution is:

26(-10)=16(+4)=20(-9)=11(+4)=15(-8)=7(+4)=11(-7)=4(+4)=8.

A.	20	10	30	15	____	25	65	40	90	
B.	32	4	8	16	____	6	10	18	50	
C.	3	33	1	8	____	44	12	96	48	
D.	6	12	24	32	____	22	44	52	26	
E.	12	4	16	21	____	19	24	8	20	25
F.	16	2	4	8	____	6	12	24	36	
G.	21	42	7	21	____	54	9	23	29	
H.	4	24	8	14	____	12	18	42	14	20
I.	7	1	3	36	____	4	8	40	29	
J.	13	10	5	15	____	5	15	8	4	12
K.	1	4	8	16	____	40	45	54	18	

Our answers are on page 65.

MINUTE MATH

1. Ms. Scribb, a famous author of intriguing mysteries, has completed two new short stories and is counting the pages to calculate the postage needed to send them to her eagerly awaiting publishers. The first story is ten pages shorter than the second, and the second story is three times longer than the first. If each page weighs .16 ounce, what is the total weight of the pages to be mailed?

2. A passenger on a bus fell asleep halfway to his destination. He dozed until he had twice as far to go as he had gone while asleep. For what part of the total trip was he asleep?

3. After a day at the fair, buddies Russ, Stan, and Carl are down to their last few dollars. Emptying out their pockets, they find they each have a whole number of dollars. "If I gave Russ four dollars, he'd have twice as much money as I have now," said Carl. "Or, if I give Stan three dollars, he'd have six times as much as I do now," remarked Russ. "On the other hand," Stan chimed in, "if I took three dollars from Carl, I'd have three times as much money as he does now." How much money does each boy have?

4. Mrs. Fixx pondered the ages of her four offspring, all of whom are under 21 years of age. Brian's age is the square of one more than Ashley's age. Camilla is five years younger than Brian. Dustin's age is the square of one-eleventh of Camilla's age. Ashley isn't the youngest. Each child age is a whole number. What are the ages of the four Fixx children?

5. On his first day back from vacation, Mickey Finley is still thinking about wide open skies rather than work. Driving to work, he realized at the halfway point that his toolbox was still and home, and returned to get it. Starting anew, Mickey reached the one-third point only to realize that his lunchbox was still sitting in his kitchen. He returned home again, got his lunchbox, and drove directly to work. Mickey arrived at work fifty minutes later than usual. If Mickey always drives at the same speed, how long is his usual trip to work?

Answers are on page 65.

LOGIC PROBLEM

9. PAPA JOE KNOWS AUTO WOES

by Kevyn Dymond

Papa Joe the auto mechanic is every driver's dream: Joe seems to have a sixth sense and always fixes an ailing auto on the same day it's brought to him. Last week, six car owners visited his shop, one each day from Monday through Saturday. From the clues below, can you determine each car owner's full name (one first name is Vince, one surname is Lawson), the color of his or her car, the day of the week it was fixed, and the part Papa Joe replaced (one needed a new fuel pump)?

1. Ollie's visit was sometime later in the week than the maroon car was brought in, and sometime earlier in the week than Ullman's visit.
2. Naylor's visit was one day after the spark plug replacement, which was one day after the purple car was brought in, which was one day after Kathy's visit.
3. Clair (whose car isn't gray) didn't have her air filter replaced.
4. The distributor replacement was one day before the blue car was brought in, which was one day before Taylor's visit.
5. The Monday and Saturday visits were made by, in some order, Zelda and the owner of the white car.
6. The yellow car was brought in one day before Ernie's visit, which was one day before the radiator hose replacement, which was one day before Quince's visit.
7. The head gasket replacement occurred two days after Ingram's visit.

Solution is on page 62.

Use the space below to solve.

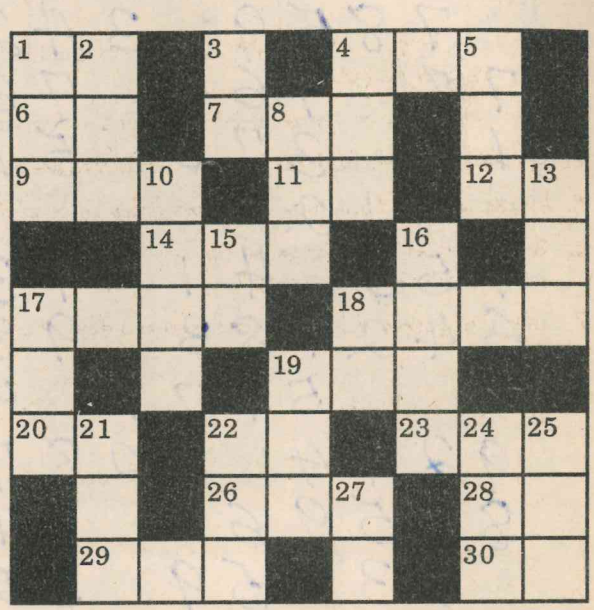
FIGURE LOGIC 7

by Linda Thistle

Directions for solving Figure Logics are on page 7.
If you need help starting this puzzle, a starting help is on page 66.

ACROSS

1. Sum of the digits of each Down answer
4. 13-Down plus 25-Down
6. One-third of 1-Down
7. 11-Across times 12-Across
9. 21-Down minus 3-Down
11. One-sixth of 19-Across
12. Two more than 3-Down
14. Ten more than 23-Across
17. 6-Across times 18-Down
18. Two times 10-Down
19. Three times 15-Down
20. 17-Across minus 16-Down
22. 2-Down minus 1-Down
23. 4-Down minus 29-Across
26. 22-Down minus 24-Down
28. 18-Down minus 15-Down
29. Two times 1-Down
30. Two less than 27-Down



No Down clues are needed to solve this Figure Logic.

Solution is on page 60.

SUM LOGIC 1 & 2

The object here is to place the numbers surrounding each diagram into its empty boxes in such a way that the five numbers in each row, each column, and each of the two diagonals add up to the given number. Numbers cannot be repeated within a row, column, or diagonal. HANDICAP: Each number must be placed in one of the boxes of the row or column outside which it now appears.

Solutions are on page 66.

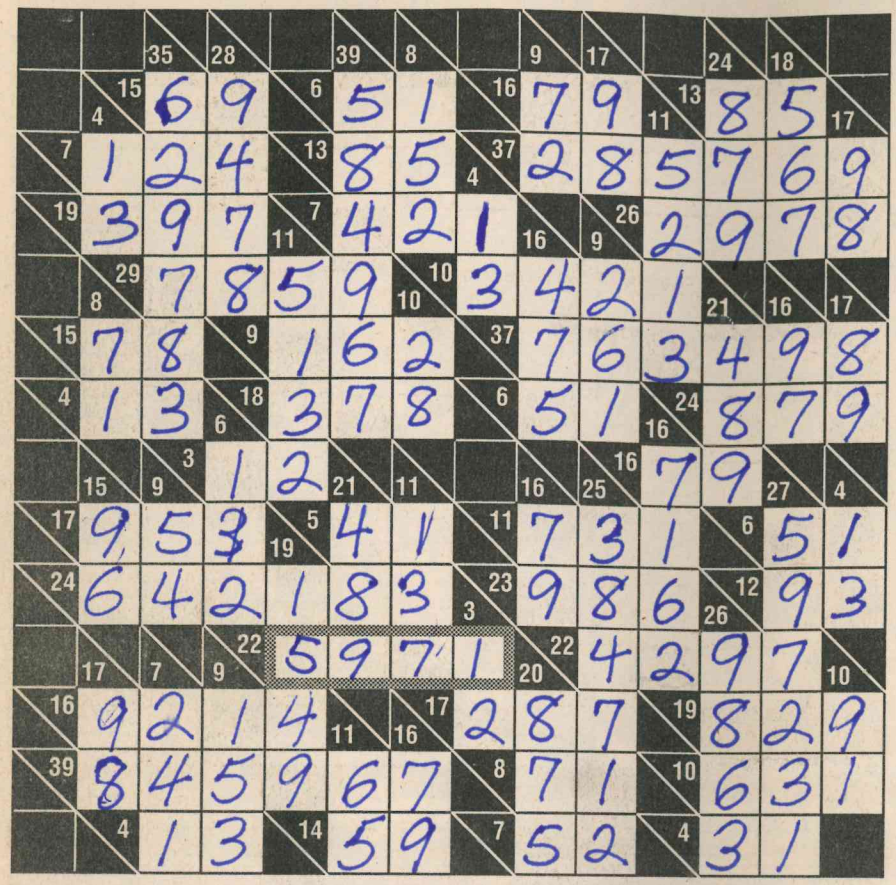
1.

	8	15	35	5	18	
2				31		21
24	27					6
82			14			11
21					4	17
17		14				24
	9	8	7	18	20	

2.

	17	10	8	25	15	
18		2				14
14					26	27
85			21			31
20	9					16
27				22		4
	18	15	32	19	10	

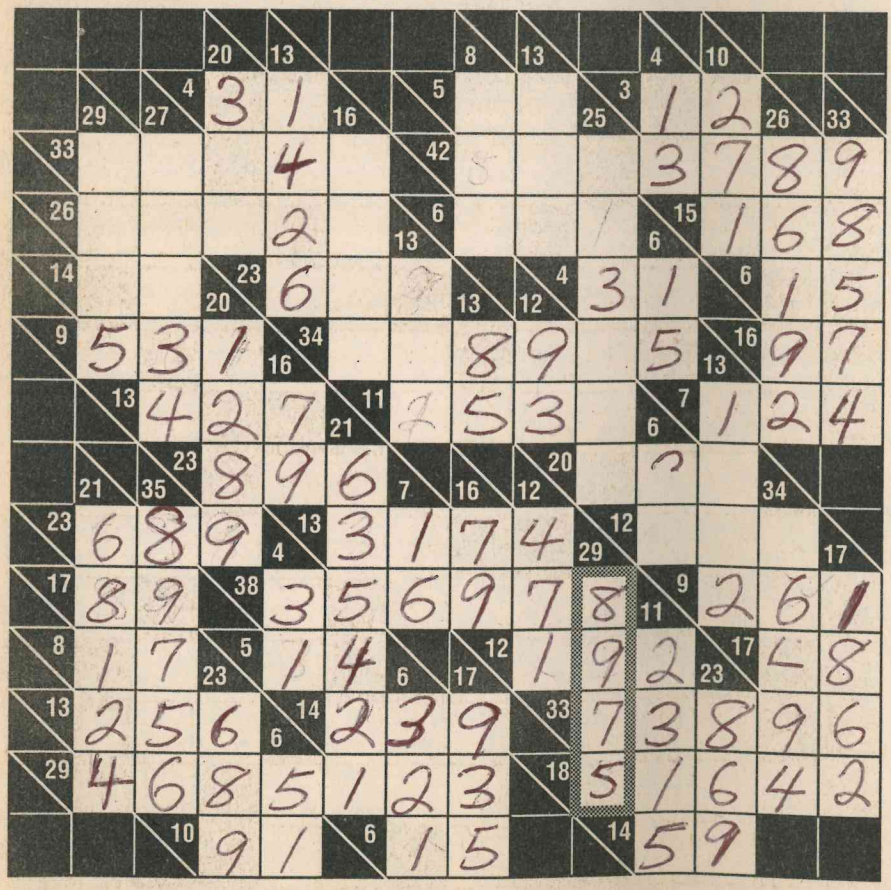
CROSS SUMS



NUMBER 13

We have outlined one area in each diagram on these two pages. If you need help starting a puzzle, the digit combination to go into that area is listed on page 66.

Solutions are on page 59.



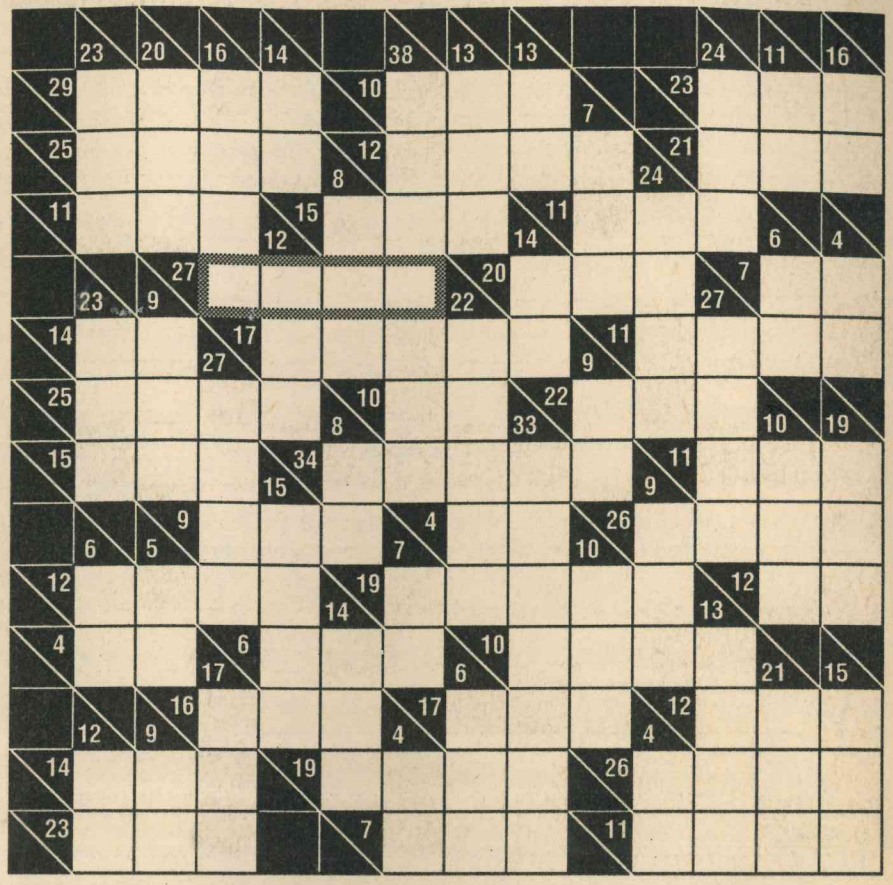
NUMBER 14

Please wear your what?

CROSS SUMS

NUMBER 15

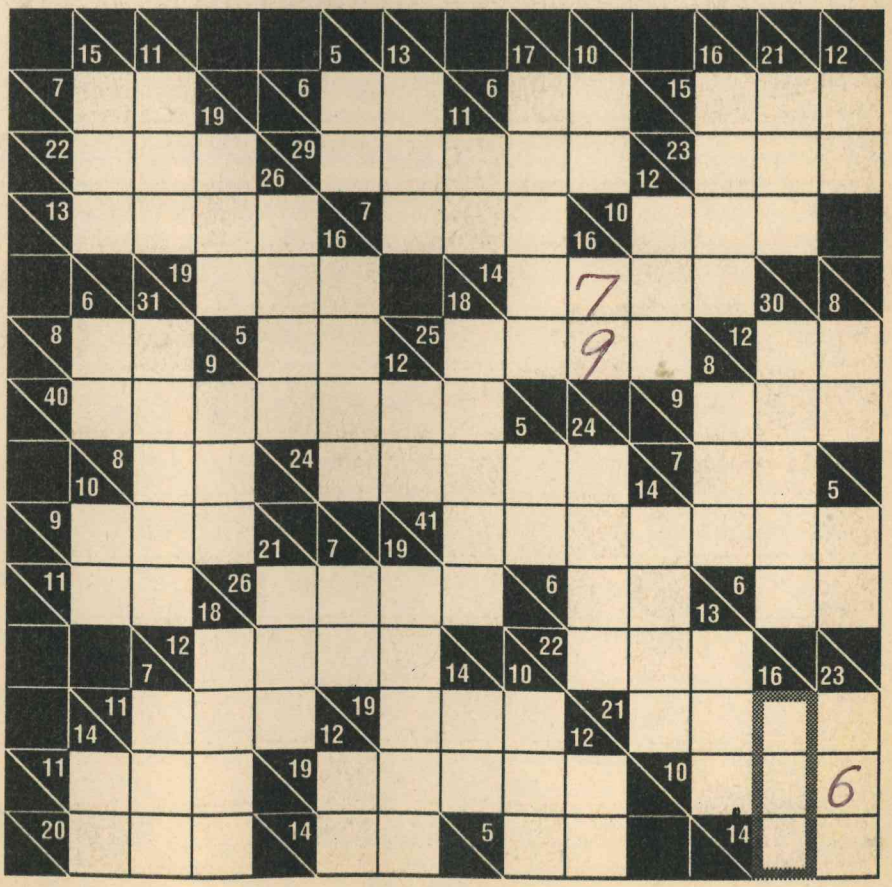
8 goes in there?



Solutions are on page 59.

NUMBER 16

C'est la vie!
(Not really!)



LOGIC PROBLEM

10. CYCLING RECYCLING

by Robert Nelson

Despite its small size, the village of Cycling has one of the most ambitious recycling programs in the state. The village has supplied each of its households with seven containers of different colors; each container is clearly labeled with the type of recyclable material to be put in it. From the information below, can you identify what type of material goes into each color container, and how many pounds of each material were taken in during last week's pickup?

1. All weights taken in were exact hundreds of pounds; no two weights were the same, and none was less than 300 pounds.
2. The combined weight of the two types of paper was exactly twice the combined weight of the material from the blue and the white containers.
3. The material from the red containers weighed more than the tin cans, but less than the newspapers.
4. The combined weight of the two types of glass was exactly twice the combined weight of the two types of cans.
5. The combined weight of the colored glass and the material from the green containers exactly equaled the combined weight of the aluminum cans and the material from the purple containers. (NOTE: Four different weights are mentioned in this clue.)
6. The other papers weighed more than the material from the yellow containers, but less than the clear glass.
7. The plastics (which were not from the blue containers), the materials from the orange containers, and the material weighing 700 pounds totaled half of the total weight of 4,200 pounds collected.

Solution is on page 62.

Use the space below to solve.

TRIGONS

Trigons will test your powers of logic and deduction. The large diagram is made up of a series of open triangles with a number in the center; that number represents the sum of the digits you are to write into the spaces on the sides of the triangles. Where two triangles share a side, they share the number to be written into that side. All the combinations use only the digits 0 through 6. We've listed all the possible combinations for every sum in the small chart accompanying each puzzle, so all you have to do is figure out which of those combinations belongs where (not as easy as it sounds!). The numbers in a combination can go in any order around their triangle, and each combination will be used exactly once. You can begin by filling in 0-0-0 around the triangle with 0 at its center and 6-6-6 around the triangle with 18 at its center. It helps to look for large sums adjacent to small sums, as they will have fewer possibilities for common digits.

Solution is on page 66.

0	000							
1	001							
2	002	011						
3	003	012	111					
4	004	013	022	112				
5	005	014	023	113	122			
6	006	015	024	033	114	123	222	
7	016	025	034	115	124	133	223	
8	026	035	044	116	125	134	224	233
9	036	045	126	135	144	225	234	333
10	046	055	136	145	226	235	244	334
11	056	146	155	236	245	335	344	
12	066	156	246	255	336	345	444	
13	166	256	346	355	445			
14	266	356	446	455				
15	366	456	555					
16	466	556						
17	566							
18	666							

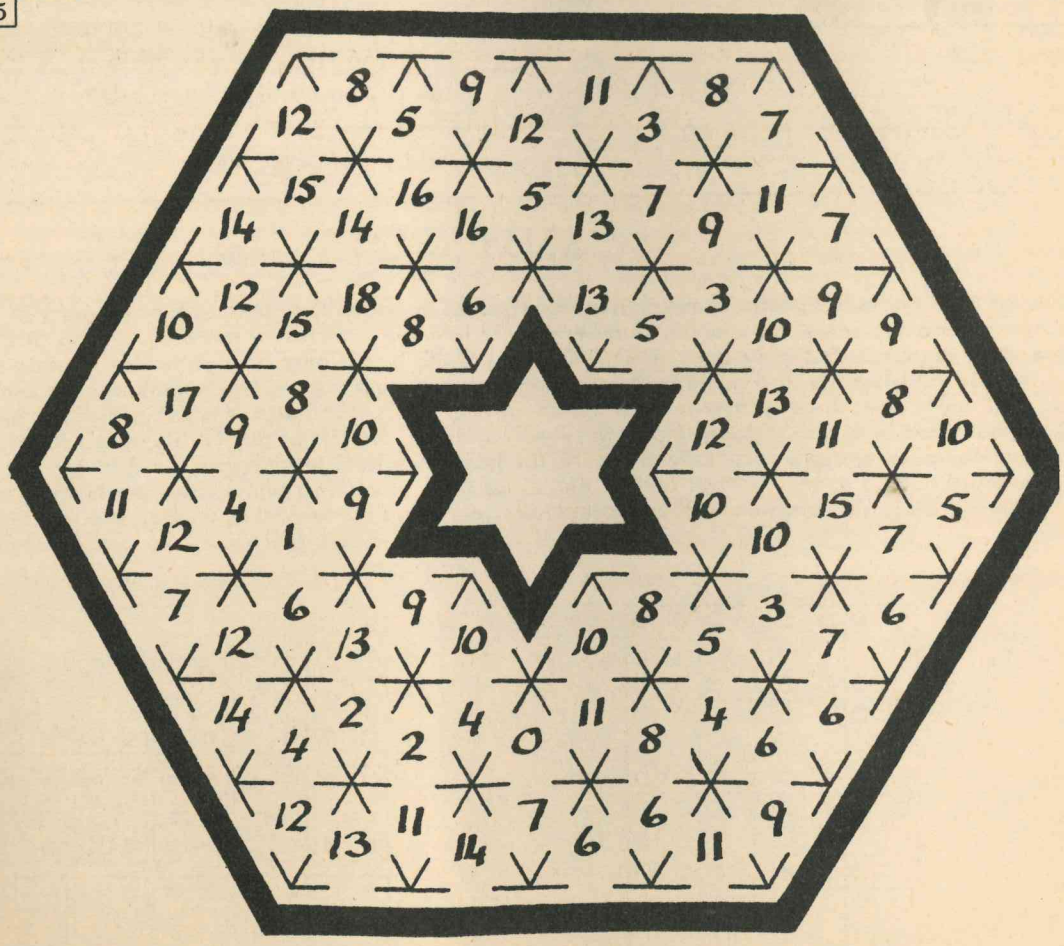
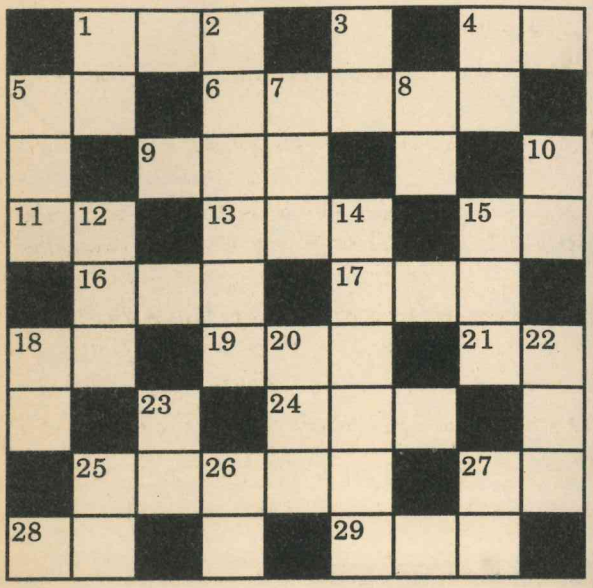


FIGURE LOGIC 8

by Linda Thistle

Directions for solving Figure Logics are on page 7.
If you need help starting this puzzle, a starting help is on page 66.



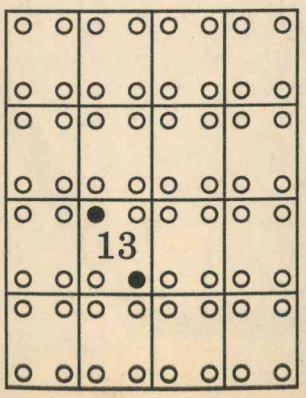
1. There are no zeros or repeated answers in the solution.
2. All answers are even numbers.
3. 17-Across is one-half of 12-Down; 18-Across is one-half of 3-Down; 24-Across is one-half of 9-Across; 4-Down is one-half of 18-Across; 10-Down is one-half of 24-Across; 25-Down is one-half of 5-Across.
4. 13-Across is halfway between 9-Across and 17-Across; 16-Across is halfway between 5-Down and 20-Down.
5. 4-Across is one-third of 23-Down; 11-Across is one-third of 8-Down; 15-Across is one-third of 5-Across; 28-Across is one-third of 18-Down; 25-Down is one-third of 1-Across.
6. 4-Across is greater than 4-Down; 3-Down is greater than 26-Down.
7. 5-Across is seven times 28-Across; 9-Across is seven times 27-Down.
8. 24-Across is 1-Down squared; 2-Down is 5-Down squared; 14-Down is 22-Down squared.
9. 11-Across is the sum of the digits of 25-Across.
10. 19-Across has the same digits as 29-Across; 7-Down has the same digits as 15-Down.
11. 6-Across has five consecutive digits in no particular order.

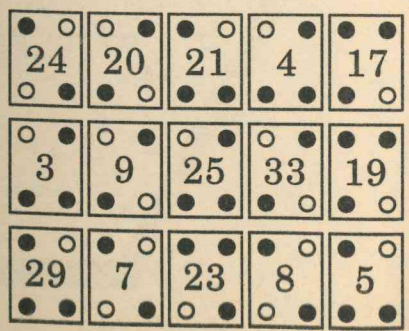
Solution is on page 60.

SUM SPOTS

The idea of Sum Spots is to form a magic number square, in which the sums of the numbers in each row, column, and diagonal are the same, by placing numbered tiles into the squares of the diagram. In this puzzle, the sum is 65. Use each tile once and only once. HANDICAP: Each tile has a black or white dot in each corner. As a tile is placed next to another tile in the diagram, the dot patterns must match, black dots next to black dots and white dots next to white dots. These patterns must match on every side that touches another tile, but tiles that touch diagonally do not have to match. For example, the 4 tile could go the left of the 17 tile, since the 4 tile has black dots in its upper- and lower-right corners and the 17 tile has black dots in its upper- and lower-left corners. However, the 4 tile could not go to the right of the 17 tile, since their black and white dots would not match. As you place each tile in the diagram, blacken in the appropriate dots in all corners. It is a good idea to cross off each tile as you use it.

Solution is on page 66.





LOGIC PROBLEM

11. COLORFUL TALK

by Lydian Davis

On her one day off during the week, Ima Couchtater always manages to work out her schedule so that she can watch her favorite half-hour talk shows. Yesterday was no exception: She just couldn't bear to miss the exciting topics and guests (one featured parents of preschoolers who have a fear of purple dinosaurs) or the wit of her favorite hosts (especially the outrageous Telem Awl). Her favorite shows are all on at different times and different local channels (channels 2, 4, 7, 9 and 13), and she managed to arrange her planned chores so that she happily saw all five shows. From this and the information below, can you determine each show's host, time, topic, and channel?

1. The first program started no earlier than 12 noon, and the last ended no later than 6 PM.
2. Ima got her ironing done during the only two shows that aired back-to-back which were, in some order, the one featuring teenagers who refuse to wear blue jeans and Dee Clare Glibly's show.
3. The sum of the channels featuring Ty Raider and the guest who developed red avocados equaled the channel she watched at 2:30 (which wasn't the second program watched).
4. During the hour between the show on channel 4 and the one presenting babies born with green hair (in some order), Ima turned the TV off and made phone calls, including one to her husband asking him to pick up the milk she'd forgotten to buy during her earlier trip to the grocery store.
5. The sum of the channels featuring host Gabby Chatterly and the one featuring teenagers who refuse to wear blue jeans equaled the channel she watched at 5 PM.
6. Ima spent the hour between the show with host Lowell Quacious and the one on channel 7 (in some order) at the grocery store.
7. The program featuring babies born with green hair was on earlier than the one showcasing the orange diet, which wasn't on at 5 PM.

Solution is on page 63.

Use the space below to solve.

CROSSMATH

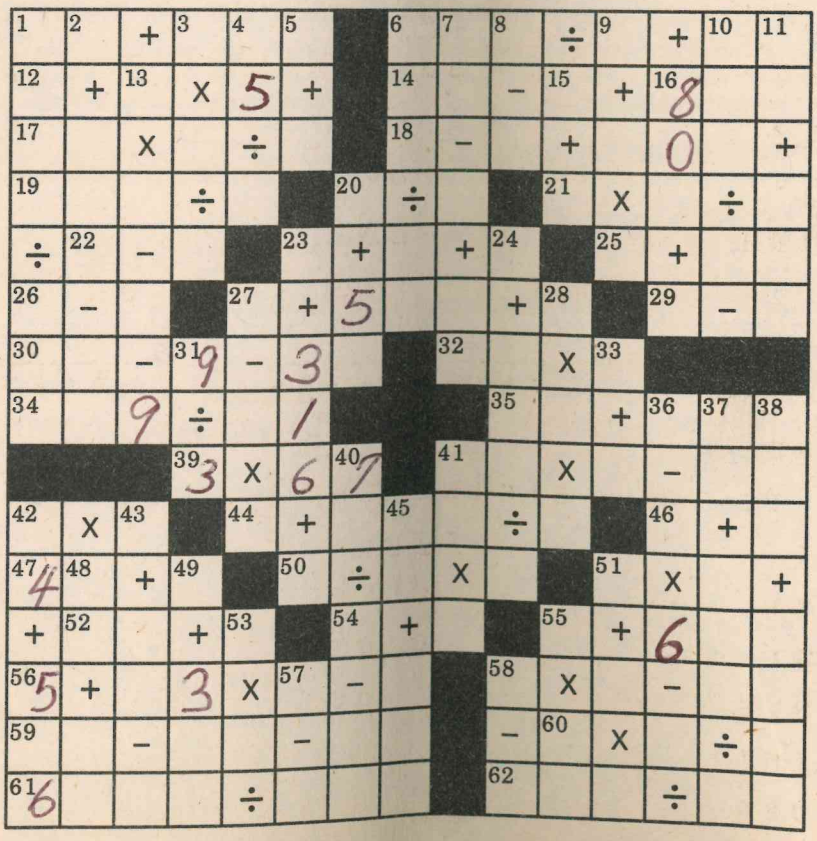
This looks like a crossword, but it involves numbers, not words. The numbers given in the clues columns are the answers to simple math problems; the numbers you enter into the diagram will form the problems which result in those answers. All the arithmetic symbols (+, -, x, ÷) have already been entered into the appropriate squares in the diagram. Use the symbols, the crossing numbers, and a bit of logic to determine the digit to enter into each blank square (one digit per square). An important thing to remember: The arithmetic is to be done in the order in which it reads, from left to right or top to bottom — for example, 1 + 2 x 3 equals 9 (1 + 2 = 3; 3 x 3 = 9). If done in any other order, your solution won't work. Arithmetic signs at the beginning or end of a problem (as in 22-Across) should be ignored. You will never use zero as the first digit of a number, though there may be zeroes used as later digits. There are no negative numbers used here; nor are there any fractions used. **Solution is on page 60.**

ACROSS

1. 766
6. 247
12. 55
14. 853
17. 144
18. 705
19. 121
20. 2
21. 8
22. 3
23. 23
25. 63
26. 2
27. 544
29. 0
30. 32
32. 504
34. 19
35. 832
39. 201
41. 308
42. 18
44. 87
46. 13
47. 47
50. 28
51. 30
52. 94
54. 7
55. 613
56. 191
58. 36
59. 19
60. 2
61. 16
62. 24

DOWN

1. 18
2. 565
3. 9
4. 15
5. 12
6. 12
7. 105
8. 2
9. 36
10. 152
11. 323
13. 24
15. 11
16. 809
20. 56
23. 332
24. 51
27. 6
28. 96
31. 3
33. 15
36. 14
37. 228
38. 5555
40. 6
41. 160
42. 600
43. 83
45. 562
48. 78
49. 343
51. 48
53. 24
55. 288
57. 4
58. 0



WORD ARITHMETIC

Solving directions are on page 8. Solutions are on page 65.

37. POLARWINDS

0 1 2 3 4 5 6 7 8 9

```
          8157
          DOWN
5348 | 43624138
WARD | RAILROAD
     42784
     RLNDR
      8401
      DRPO
      5348
      WARD
     30533
     APWAA
     26740
     LINRP
     37938
     ANSAD
     37436
     ANRAI
       502
       WPL
```

38.

0 1 2 3 4 5 6 7 8 9

```
        REV
ERR | RUINED
    PIVR
     VPOE
    OEPU
     OIED
    RDER
      MUP
```

39. S

0 1 2 3 4 5 6 7 8 9

```
          RED
 0    0
HAS | CASHED
       0
    AMRS
     CYHE
       0
    CEES
     RCED
     0 0
    RSDS
      AND
```

40.

0 1 2 3 4 5 6 7 8 9

```
        MEN
HEM | RECENT
    RCRM
     CAAN
    RNSP
     CRNT
    CRMM
      RC
```

41. TRUE

0 1 2 3 4 5 6 7 8 9

```
          1
        FOR
1 0     3
RAT | SCARE
      0
    AFT
    1
    RFAR
    1 0
    RFFT
     2 1 3
     URE
     1 0
     RAT
       3
       IE
```

42. P S

0 1 2 3 4 5 6 7 8 9

```
          6
          SO
6     0
EARS | OPERA
       6
    HOAS
     ERHIA
    ERIIO
       0
      TPL
```

43.

0 1 2 3 4 5 6 7 8 9

```
        SET
POT | POLITE
    WEPT
     WCST
    WTWL
     OHTE
    OTHT
      OEP
```

44.

0 1 2 3 4 5 6 7 8 9

```
        HUE
BIG | HEIGHT
    GTHL
     CULH
    CLBT
      UST
```

45.

0 1 2 3 4 5 6 7 8 9

```
          GI
SERGE | SUITING
    EGEUEI
     ESESLG
    EBTNTL
      EITRN
```

LOGIC PROBLEM

12. TAXI! TAXI!

by Mary Marks Cezus

A cab from Hibiscus Bay Transport was among the five lined up in front of the Island Mirage Hotel. Five different families soon appeared and the taxis were off to different destinations on Seahorse Island. No two of the taxis were from the same company, and no two trips were of the same length. From the clues below, can you determine each taxi's position in line, the family that used it, its destination, the company that owned it, and the distance each traveled (5, 8, 11, 15, or 20 kilometers)?

1. The Coral Reef cab was directly in front of the cab taken by the Walkers.
2. The cab that went to the Museum of Island History had a longer trip than both the cab directly in front of it and the cab directly behind it.
3. The cab from Lantana Taxi Service did not go to the Lighthouse Shopping District.
4. The Red Sail taxi was after the cab that went to the Aqualife Park but before the taxi taken by the Karrs.
5. The taxi that went to Pelican Wharf (which was not in position 2) traveled further than the taxi taken by the Fairfields.
6. The cab that went to Grapetree Airport (which was not the Coral Reef cab) traveled a shorter distance than both the cab immediately in front of it and the cab immediately behind it in line.
7. The Prince Porpoise taxi traveled farther than the taxi taken by the Milos (which was not the Red Sail cab).
8. There was exactly one taxi in line between the cab taken by the Cabots and the taxi that went to the Museum of Island History.
9. The taxi in position 3 went farther than the taxi taken by the Walkers.
10. The Prince Porpoise taxi was in line ahead of the cab that went 8 kilometers.
11. The cab in position 1 did not travel as far as the taxi taken by the Cabots, but it went farther than the Coral Reef cab.

Solution is on page 63.

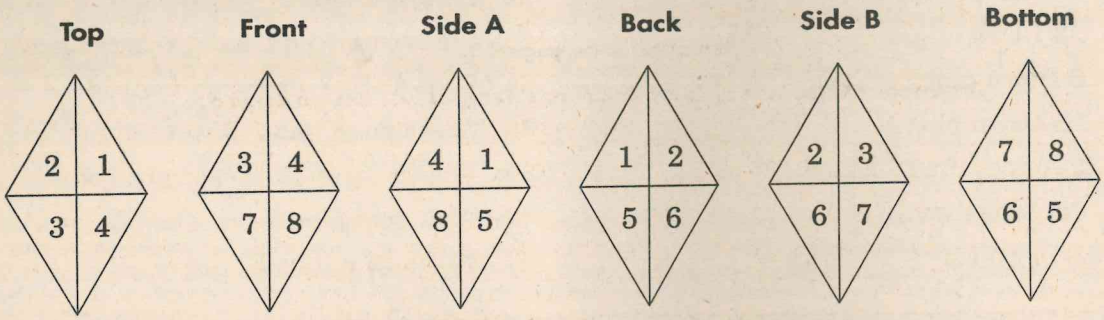
Directions for the use of Logic Problem solving charts are on page 5.

	Cabot	Fairfield	Karr	Milo	Walker	Airp.	Aqua.	Mus.	Shop.	Wharf	Coral	Hibis.	Lant.	Prince	Red	5	8	11	15	20
#1																				
#2																				
#3																				
#4																				
#5																				
5																				
8																				
11																				
15																				
20																				
Coral																				
Hibis.																				
Lant.																				
Prince																				
Red																				
Airport																				
Aqua.																				
Museum																				
Shopping																				
Wharf																				

OSCAR'S OCTAHEDRON

Oscar's lucky charm is an octahedron, an eight-sided shape. The eight faces of the charm are decorated with hand-painted signs and symbols. Each face has an image of a living thing, either a plant (broccoli, gardenia, palm, or radish) or animal (bat, gnat, panther, or rhino). Each image is in a different color (black, blue, gold, green, pink, purple, tan, or tangerine). Each face is also inscribed with the name of a different heavenly object (Alcor, Arcturus, Mars, Mercury, Saturn, Sirius, Vega, or Virgo). A diagram of the charm is shown below, with each face numbered. From this information and the clues below, can you determine the living thing and its color and the heavenly object depicted on each face from #1 through #8?

1. Each pair of faces with colors that share an initial letter are diametrically opposite (they don't meet at any edge or corner point).
2. Each pair of faces with heavenly objects that share an initial letter share an edge.
3. Each pair of faces with living things that share an initial letter meet only at a corner point.
4. The four animals are: the gnat (which is purple), the one on #8, the one with the symbol for Vega, and the only living thing with an initial letter that matches the initial letter of its color. Saturn's symbol is on the face with this fourth animal mentioned.
5. The four plants are the gardenia (which is blue), the plant on #4, the one with the symbol for Mars, and the one diametrically opposite to the rhino.
6. On face #8, the name of the color, the heavenly object, and the living thing all have the same number of letters. On all of the other faces, all three are of three different numbers of letters.
7. The color on face #3 does not begin with a B or a P. The two faces with the symbols for Virgo and Vega appear on faces whose numbers total less than thirteen.



Solution is on page 65.

FIGURE LOGIC 9

by Linda Thistle

Directions for solving Figure Logics are on page 7. If you need help starting this puzzle, a help is on page 66.

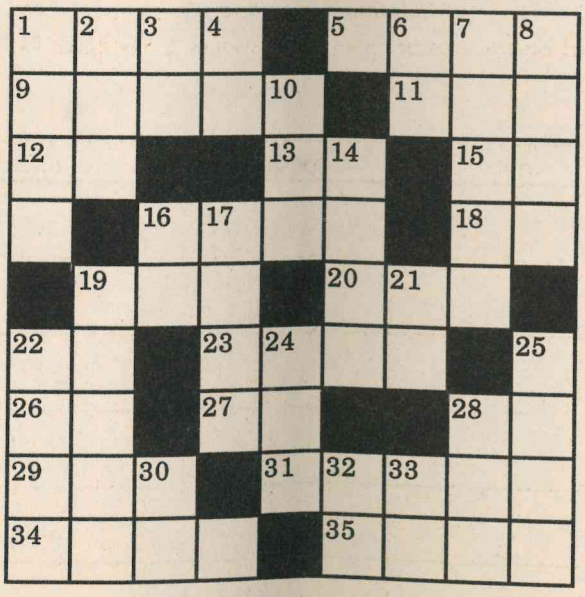
NOTE: Each letter used in the puzzle represents a different digit from 1 to 9. Arranged in numerical order, they spell a common word.

ACROSS

1. 1-Down plus 21-Down
5. 19-Down divided by E
9. 34-Across times 3-Down
11. 28-Across times N
12. 21-Down plus 30-Down
13. 6-Down minus G
15. 26-Across minus N
16. 1-Across times R
18. 6-Down times E
19. 2-Down divided by E
20. 26-Across times 27-Across
22. 27-Across minus U
23. 3-Down times 28-Down
26. 27-Across plus S
27. 32-Down minus I
28. 6-Down plus 32-Down
29. 28-Down plus M
31. 9-Across plus 7-Down
34. 35-Across times G
35. 3-Down times 33-Down

DOWN

1. 17-Down divided by R
2. 3-Down times 6-Down
3. 30-Down plus A
4. 21-Down plus R
6. 22-Across plus A
7. 5-Across times N
8. 16-Across minus 22-Down
10. 28-Across times M
14. 21-Down times 32-Down
16. 18-Across plus 4-Down
17. 35-Across times I
19. 31-Across divided by A
21. 18-Across plus U
22. 25-Down plus S
24. Consecutive odd digits rearranged
25. Consecutive digits rearranged
28. 24-Down minus 2-Down
30. The digits of 32-Down reversed
32. 15-Across plus E
33. 16-Down minus E



Solution is on page 60

LOGIC PROBLEM

13. IN A WHIRL

by Ruby Muran de Assereto

The Hill and Dale School of Heel and Toe, which teaches all kinds of dance to the residents of Dellville, is in a whirl because of its upcoming recital. Each of the six students in the choreography class has prepared a routine for one of the dance classes to perform. Each of these six classes is taught a specific dance form, but part of the assignment for the choreography class was to incorporate elements from another form into the dance, so each dance in the recital will feature the primary form taught the class, and a secondary form of dance as well. Each choreography student was assigned a different secondary form, and each secondary form is the primary form of another of the classes. One class, called The Mix-Ups, is made up of students of all ages, but each of the other five dance classes is designed for a specific age group, and is named after the age of its members. From the information below, can you determine the full name of each choreography student, the class he or she is designing a dance for, the primary and the secondary dance form included in each dance, and the order of performance in the recital?

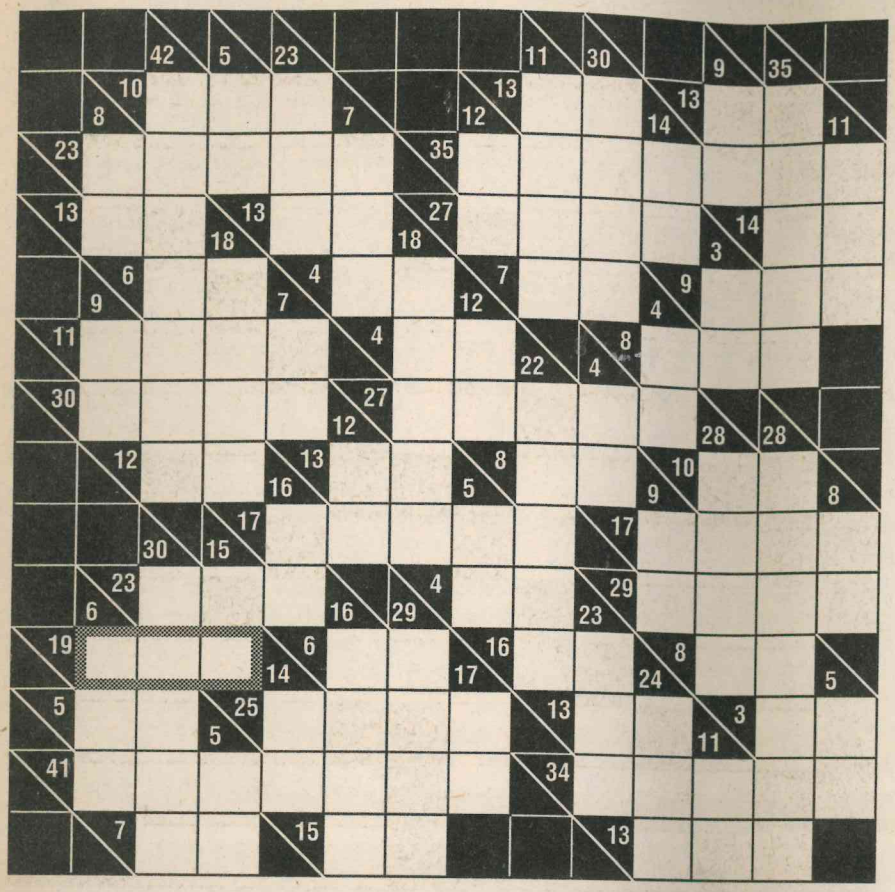
1. The dance Robert is choreographing is not the ballet. The Swingin' Seniors class (who are all at least 65 years old) are not the ballroom dance class.
2. The dances that will include dancers under 21 years of age are the one that uses Popular dance as its secondary form, the one to be performed by The Teens (who are all teenagers), and the ones choreographed by Juanita and Gomez. Dancers 21 and over are in the dances choreographed by Kanisha, Sean, and Sabio (a surname). The dance mentioned twice in this clue is the only one not mentioned in clue 4.
3. With only one exception, the dance in which a dance form is secondary is scheduled before the dance in which that form is the primary. For example, the tap class will perform after the Little Kids (who are all 4 to 9 years old), who will perform the routine in which tap is the secondary form used.
4. Both routines involving jazz dance are scheduled before the two that involve ballet. Both routines involving folk dance will be done after the two involving ballroom dance.
5. It is well-known in Dellville that the Neff family members are all dancing fools. There is a Neff in each of the first two dances to be performed, and two more Neffs (a little boy and his grandmother, who are the youngest and oldest students in the school) will be featured in the last routine performed. The Neff that studies choreography did not use any of the forms that the Neff dancers are rehearsing.
6. All the dancers in Pam's routine are older than anyone in the folk dance class, but younger than anyone in Khalil's dance. Kanisha's dance will be performed after the primary ballet, which will be after the one performed by the Grown-Ups (who are between 21 and 65 years of age). All six dances are mentioned in this clue.
7. The six routines are: the second one scheduled (which was not choreographed by Alston), the one by Vladimir, the one by choreographer Cutleff, the one to be danced by the Big Kids (who are 9-12 years old), the one that uses tap as a secondary form (which was not choreographed by Juanita), and the one done by the Popular dance class.

Solution is on page 63.

The chart below was of most help in solving this Logic Problem.

	first	last	primary	secondary	group
1					
2					
3					
4					
5					
6					

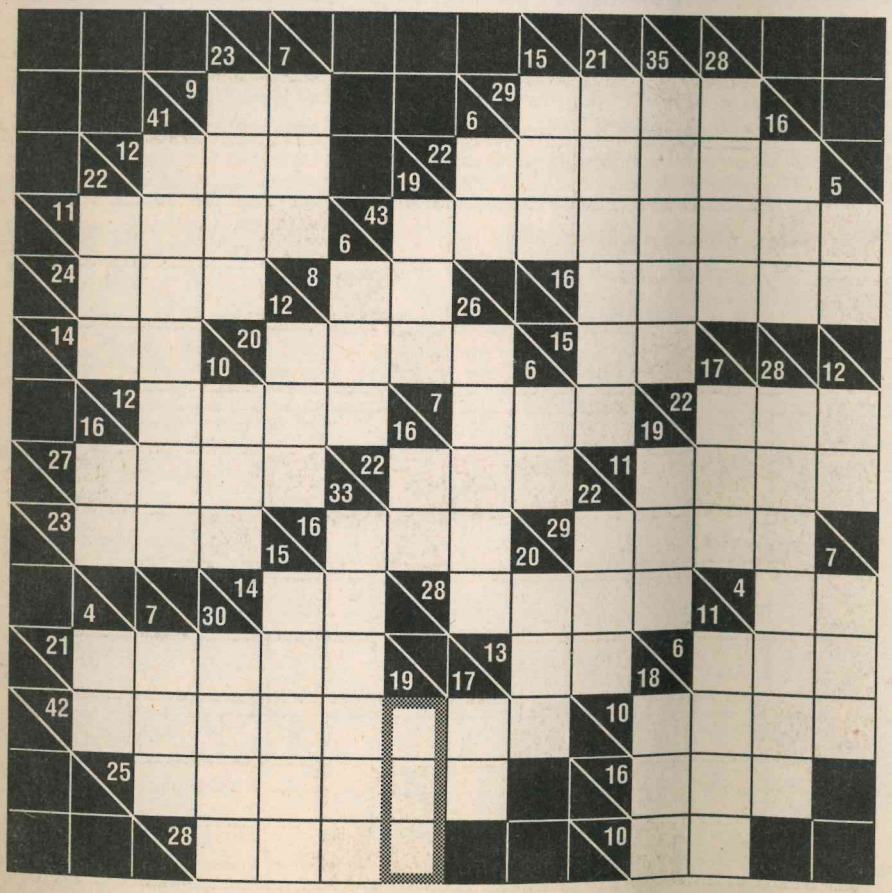
CROSS SUMS



NUMBER 17

We have outlined one area in each diagram on these two pages. If you need help starting a puzzle, the digit combination to go into that area is listed on page 66.

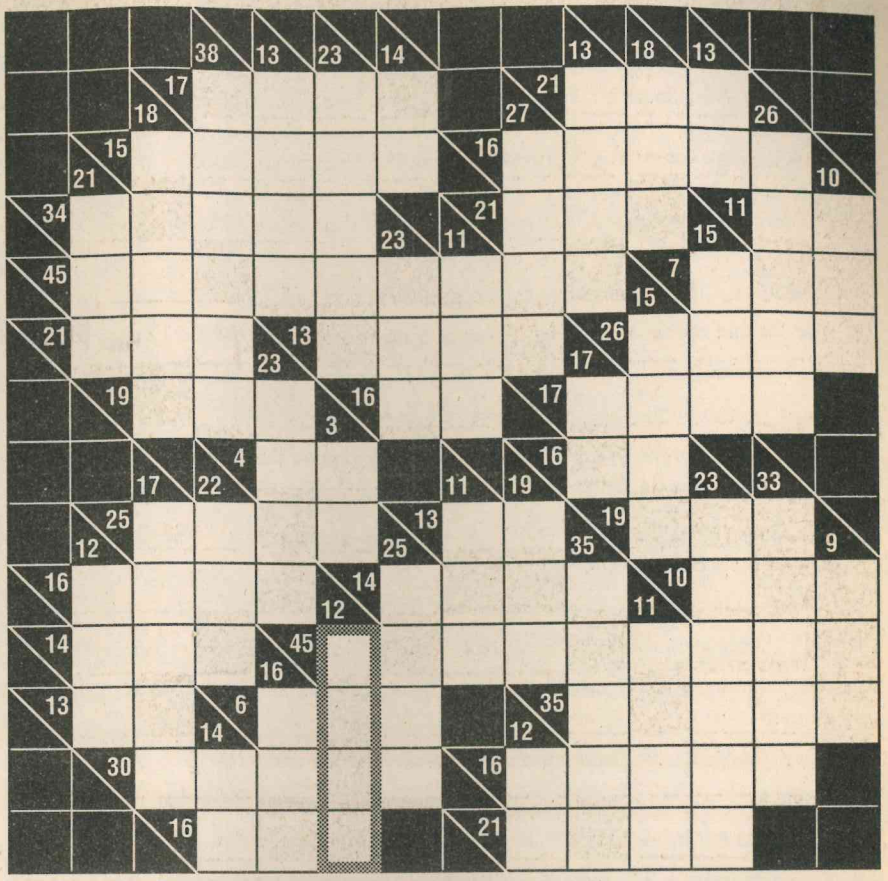
Solutions are on page 59.



NUMBER 18

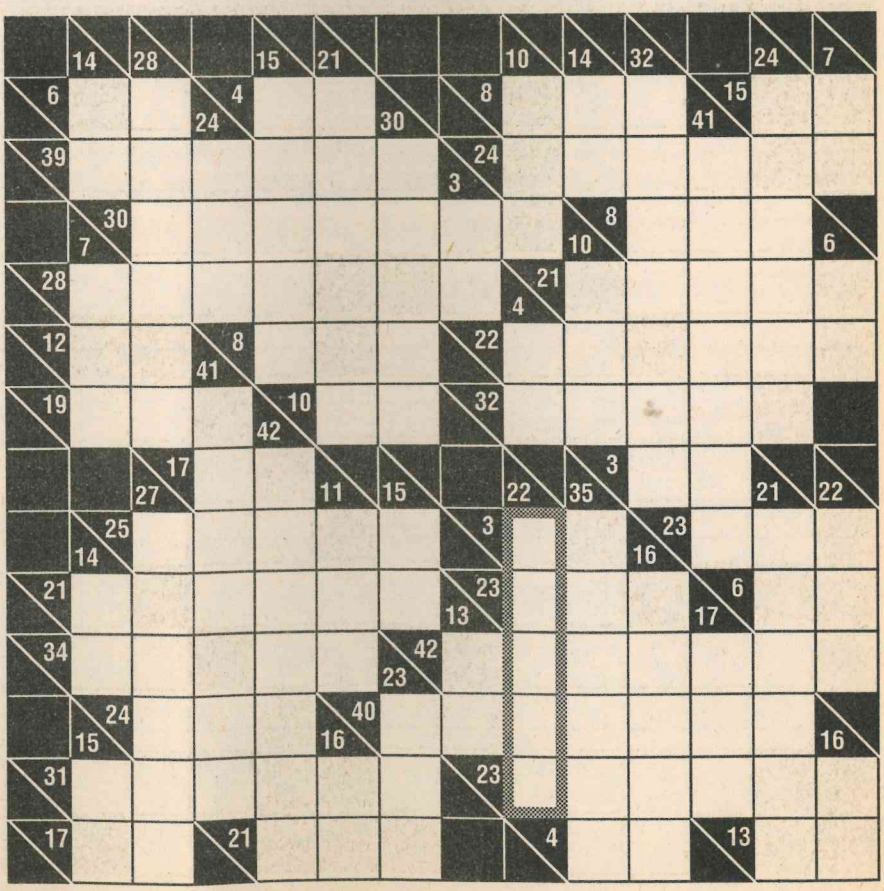
CROSS SUMS

NUMBER 19



Solutions are on page 59.

NUMBER 20



LOGIC PROBLEM

14. ADVANCED LOGIC

by Mary A. Powell

The students of the Advanced Logic class had studied hard all year, and felt they were prepared for their final exam. To their surprise, the exam turned out to be a single problem to be solved. Professor Turner handed out a diagram and a single sheet of paper. "Two of my students last year were surnamed Jackson and Rider. As the diagram shows, the desks were placed in five columns from the front to the back of the room, and four rows across. This information and the information on the paper I have handed out," she stated, "is all the information you need to determine the seating chart I used for last year's twenty Advanced Logic students. If you determine each student's full name and seat number, you will receive an A for this course." Below is the information from the sheet of paper; can you solve the problem and receive an A in logic yourself?

1. One student in the front row had the same first and last initials.
2. Pamela and the Queen girl sat as far apart as possible, as did the Connors boy and Ann.
3. The Davis girl sat directly (but not necessarily immediately) behind Ted, who sat immediately behind the Long girl.
4. These four students were in the same row across: the Andrews girl, the Boyd boy, Ted, and Jane.
5. Carl (who is not the Allen boy) sat immediately behind the Wilson girl.
6. Ned and the Landry girl sat at opposite ends of one row; Pamela and the Fowler girl sat at opposite ends of another row.
7. The Owens boy (who is not Frank) sat immediately in front of George and immediately behind the Egan girl, who sat immediately behind Will.
8. A boy sat in seat 403; Roger was in seat 103.
9. Beth sat between two boys in her row, while Bill sat between two girls in his.
10. The Connors boy sat directly (but not necessarily immediately) in front of the Holland boy, who sat immediately in front of Pamela.
11. Larry, Mary, Sandra, and the Morris boy were in the same row.
12. Diane had wanted to sit with David, but her row was two behind his.
13. Larry was not in seat 105; Vicky was not in seat 205.
14. Louise Landry sat two seats directly behind Mary; Jane sat immediately in front of a boy.
15. The Smith boy and the Thompson girl sat in the same row, which was two rows behind the Iverson girl's.
16. The Potter boy sat immediately behind Ted; the Allen boy sat two seats directly behind Karen.

Solution is on page 64.

Use the seating chart below to solve.

401	402	403	404	405
301	302	303	304	305
201	202	203	204	205
101	102	103	104	105

front of room

SUM QUOTE

To solve Sum Quote, you will first have to discover the value of each letter by solving the equations in the LETTER VALUE LIST. Simple arithmetic and some logic is all you will need to determine each letter's numerical value. Each letter has the same value throughout the puzzle; no letter has more than one value; and no letter has a value of zero. You will use these values to form a quote in the diagram. The sum of the values of the letters in each column down is given in the bottom row of the diagram. Some numbers have been placed in the diagram; when you've discovered the letter each of those numbers represents, place the letter in the box directly above its number. Simple arithmetic and the words forming in the diagram will help you correctly place the remaining letters and values. A black square indicates the end of a word in the quote.

Answer is on page 63.

LETTER VALUE LIST

I = E + E	K = R + R	V = D + D
L = E + I	O = K + E	M = H + E + S
S = I + I	T = N + I + A	R = L + S
B = N + N	N = L + L	Y = E + D + S + H
C = B + E	U = T + E	D = I + L + S
H = I + L	A = S + S	W = D + I

A =	E =	K =	N =	S =	V =
B =	H =	L =	O =	T =	W =
C =	I =	M =	R =	U =	Y =
D =					

								■							■		
			6					■	4			17			■	10	
				■									■				
7	1			■		6	9				16		■	11			
	■							■					■				
	■		10	2				■	5				■				6
19	8	9	35	16	8	8	17	2	22	21	49	19	3	32	6	12	14

FIGURE LOGIC 10

by Linda Thistle

Directions for solving Figure Logics are on page 7. If you need help starting this puzzle, a help is on page 66.

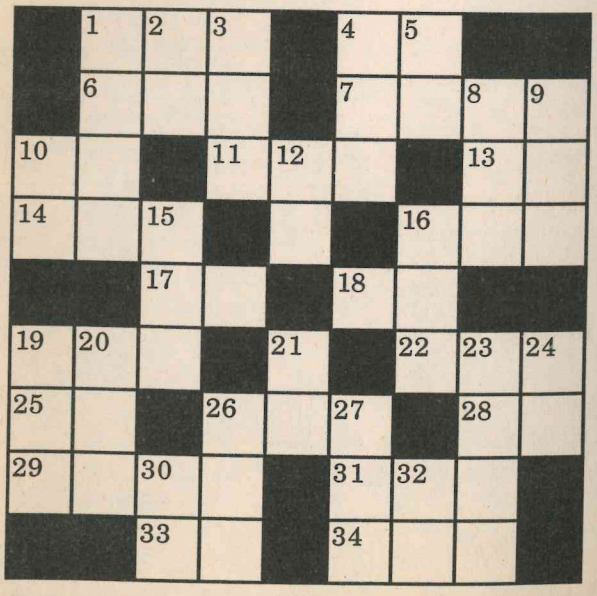
Avid gardeners, Leif and his next-door neighbor Herb agree that there's no such thing as too many shredded leaves. They dig them into garden beds, spread them thickly for mulch, and add them to compost piles by the bagful. Neither man has been satisfied with their inexpensive leaf shredders; in fact both machines have quit working. So this year Herb and Leif jointly purchased a much more powerful leaf shredder, one that turns nine bags of raked leaves into one bag of shredded leaves and growls for more. For five weeks this fall each man not only raked leaves in his own yard but collected bags of raked leaves from all around town. Once each week Leif shredded the leaves he had collected that week, bagging the shredded leaves to be used later, then wheeled the machine next door for Herb to use and return. From this and the following clues, can you determine how many bags of shredded leaves each man stockpiled?

ACROSS

1. Bags of leaves collected by Herb the second week
4. Bags of shredded leaves added to Leif's stockpile the second week
6. Bags of leaves collected by Leif the first week
7. Total bags of leaves collected by Leif
10. Bags of shredded leaves added to Herb's stockpile the second week
11. Total bags of leaves collected the second week
13. Total bags of shredded leaves added to the stockpiles the fifth week
14. Five times the total bags of shredded leaves stockpiled by Leif
16. Two times the total bags of leaves collected the fifth week
17. Bags of shredded leaves added to Leif's stockpile the third week
18. Total bags of shredded leaves stockpiled the first week
19. Total bags of shredded leaves stockpiled
22. Total bags of shredded leaves stockpiled by Leif
25. Total bags of shredded leaves added to the stockpiles the fourth week
26. Bags of leaves collected by Herb the fifth week
28. Total bags of shredded leaves added to the stockpiles the third week
29. Total bags of leaves collected by Herb
31. Sum of the bags of leaves collected by Leif the first and fifth weeks
33. Bags of shredded leaves added to Leif's stockpile the fifth week
34. Two times the bags of leaves collected by Herb the fourth week

DOWN

1. Two times the total bags of leaves collected the fourth week
2. Four times the bags of shredded leaves stockpiled by Leif the first week
3. Bags of leaves collected by Herb the third week
4. Total bags of shredded leaves in Herb's stockpile
5. Two times the total bags of shredded leaves added to the stockpiles the second week
8. Sum of the bags collected by Leif the third and fourth weeks
9. One-half of the sum of the bags of leaves collected by Herb the first, third, and fourth weeks.
10. Bags of shredded leaves stockpiled by Herb the first week
12. Bags of shredded leaves stockpiled by Leif the first week
15. Two times the bags of leaves collected by Leif the third week
16. Sum of the total bags of leaves collected the second and fifth weeks
19. Bags of leaves collected by Leif the third week
20. Sum of the bags of leaves collected by Leif the second and fifth weeks
21. Three times the bags of shredded leaves in Leif's stockpile the first week
23. Three times the total bags of leaves collected the third week
24. Sum of the bags of shredded leaves added to Herb's stockpile the first, third, and fourth weeks.
26. Bags of leaves collected by Leif the second week
27. Two times the sum of the bags of leaves collected by Herb the second and fourth weeks
30. Bags of shredded leaves added to Leif's stockpile the fourth week
32. Three times the bags of shredded leaves added to Leif's stockpile the second week



Solution is on page 60

LOGIC PROBLEM

by Julie Spence

15. SHOPPING AROUND

One recent Saturday morning, the checkout attendant at Lanie's Supermarket waited on twelve married couples consecutively. The interesting thing she noted was that these twelve couples bought only six different items – milk, orange juice, bread, cereal, eggs, and bacon – and among the twelve they bought exactly eight of each item (eight cartons of milk, eight loaves of bread, etc.). Each husband and wife were waited on together and each couple bought the same total number of items. No two couples, however, bought the same combination of items, and none of the couples bought more than one of any item. From this and the information below, can you determine the full names of each couple (one husband is Bob, one wife Amy, and one surname Wicker), the order in which the twelve were waited on, and what items each couple bought?

1. The Vandells, who bought bacon, were waited on before the Clarks, who were not waited on last.
2. The Thompsons bought milk, bread, bacon, and eggs; the Ameses did not buy eggs.
3. The couples waited on eighth and tenth bought orange juice; the first five couples all bought bread.
4. These five couples were waited on consecutively from first to last: the Bakers; Gary and his wife; a couple who bought orange juice and bacon; the Stevenses; and Bill and his wife.
5. Sue and her husband did not buy either bacon or eggs; Mary and her husband did not buy bread.
6. The couple waited on last did not buy cereal.
7. Tom and his wife bought orange juice; George and his wife bought eggs.
8. The Macks did not buy cereal; the Olsons bought both bread and eggs.
9. Fern and her husband bought milk but not bread; Judy and her husband bought cereal.
10. These five couples were waited on consecutively from first to last: Janet and her husband; Jack and his wife; the couple who bought milk, bread, orange juice, and bacon; the couple who did not buy either cereal or orange juice; and Jill and her husband.
11. The couples waited on first, second, and fourth did not buy eggs; the couples waited on tenth, eleventh, and twelfth did not buy milk.
12. Neither Allen and his wife (who did not buy bacon) nor the Smiths bought milk.
13. Sally and her husband, who were not tenth or twelfth, and John and his wife are two couple who bought both bacon and eggs.
14. The Nelsons, who did not buy milk or eggs, were waited on ninth.
15. Adam and his wife, who did not buy bacon, were waited on immediately before the Johnsons.
16. Steve and his wife bought cereal, orange juice, eggs, and one other item; Chuck and his wife did not buy milk.
17. The four couples who did not buy milk are: Nola and her husband; the Vandells; Joe and his wife; and Diane and her husband (who did not buy eggs).
18. Carol and her husband, who did not buy eggs, were waited on immediately before Nikki and her husband.

Solution is on page 64.

Use the space below to solve.

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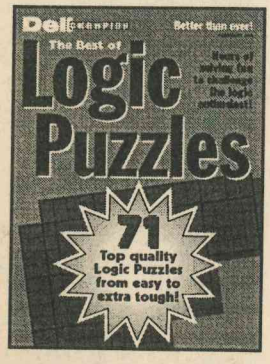

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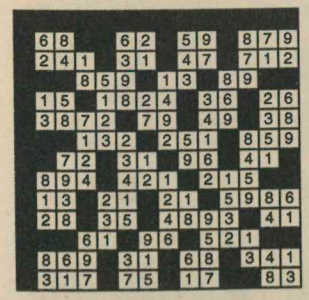

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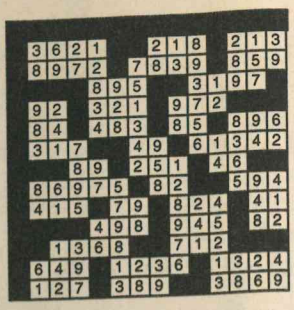

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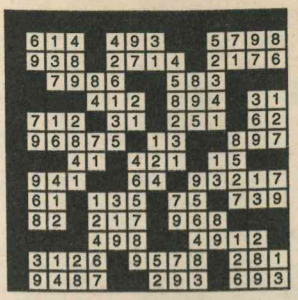

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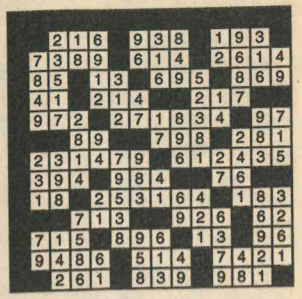

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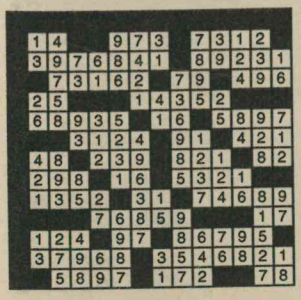

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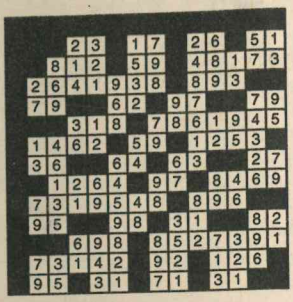

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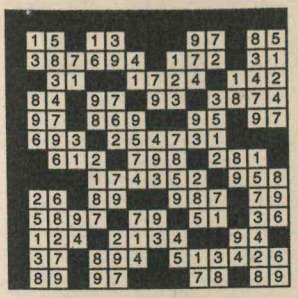

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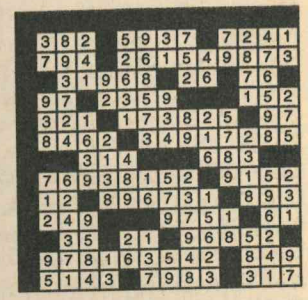

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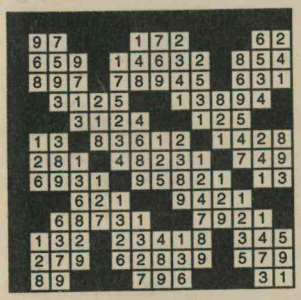

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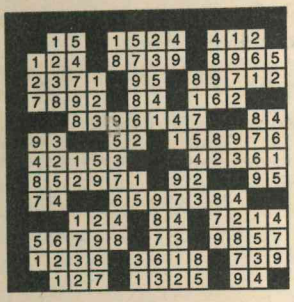

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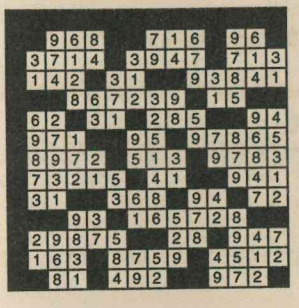

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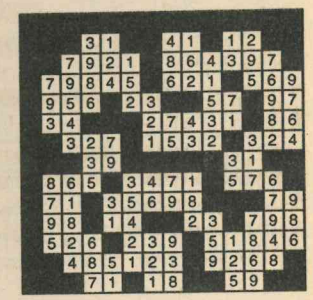

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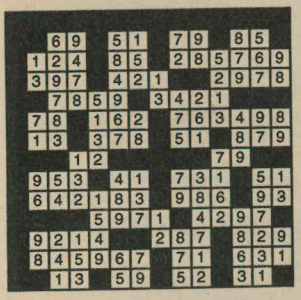

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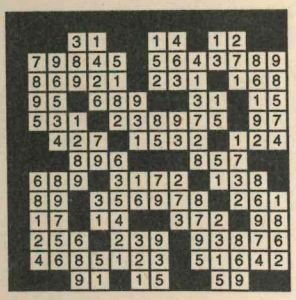

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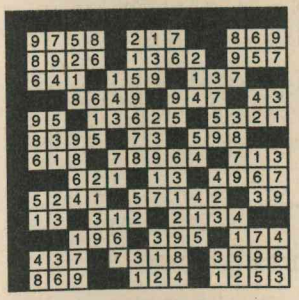

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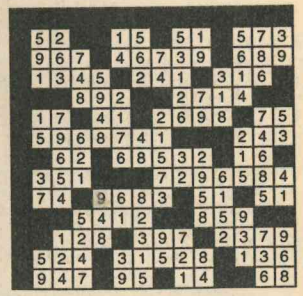

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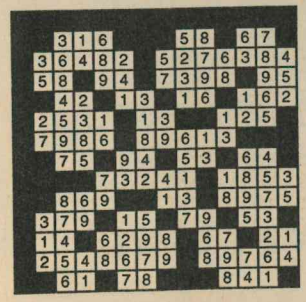

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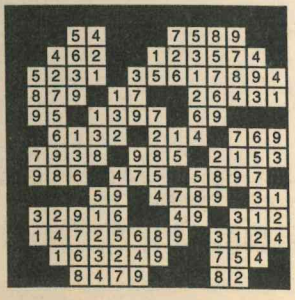

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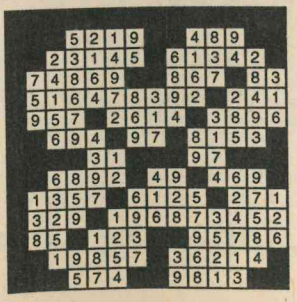

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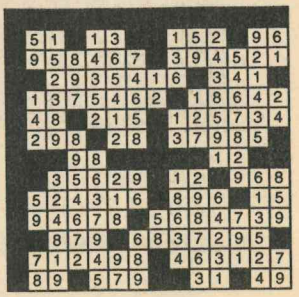


FIGURE LOGIC 1

8	3		6	3	8		4	3
	2	4	1		8	1	8	
3	1	7				4	9	1
3		3	1		4	9		2
			5	1	8			
9		5	5		2	6		1
5	6	2				6	9	1
	4	2	1		2	1	7	
3	8		3	2	4		8	5

FIGURE LOGIC 2

	2	0	3		6	8	0	
7	0		8	5	2	1		6
6	0	8		0		2	8	0
		2	5		3	1	1	
2	4		4	0	0		2	9
	3	2	7		3	5		
1	6	1		3		7	7	9
2		2	4	3	2		1	9
	1	1	1		1	0	9	

FIGURE LOGIC 3

	8	6	2		2	4	0	
4		4	0	4	2	5		3
7	3	5		8		3	3	0
3	7		1	0	1		6	0
	6	7	5		8	4	0	
5	5		1	9	0		7	5
2	0	1		7		1	5	0
5		2	4	5	1	0		2
	1	9	5		5	5	5	

FIGURE LOGIC 4

		3		8	5	8		
	7	8	1		6	8	2	
1	9		1	2	1		4	0
8	2	5		0		4	2	
7		8	1	3	1	2		1
	3	3		2		9	1	3
1	4		4	8	4		5	2
	1	1	0		8	1	4	
		2	7	5		3		

FIGURE LOGIC 5

	1	2			3	4	2	
3	6	0		3	0	1	3	2
2	8		1	6	2		4	3
4	4	8	9		5	4		
	8	4				6	7	
		6	3		1	8	4	9
7	6		5	5	8		5	1
2	1	1	7	5		8	2	8
	2	0	1			9	0	

FIGURE LOGIC 6

	1	0	5		2	0	1	
7	5		6	4	5		1	8
8			2	7	0			1
	4	6	5		5	6	4	
9	0	0				1	2	0
	5	0	1		1	5	0	
3			2	1	0			9
3	4		3	0	0		3	0
	5	1	0		5	4	6	

FIGURE LOGIC 7

1	2		3		4	5	6	
5	2		9	8	4		2	
6	8	4		2	4		4	1
		1	4	2		4		9
4	3	6	8		8	3	2	2
6		1		1	4	4		
2	7		7	2		1	3	2
	2		3	9	6		3	6
	3	1	2		6		6	4

FIGURE LOGIC 8

	1	2	6		6		1	8
8	4		5	8	4	7	6	
1		3	9	2		8		9
2	6		3	6	4		2	8
	7	1	4		3	3	6	
3	2		4	6	2		8	6
6		5		1	9	6		5
	4	4	6	6	6		5	8
1	2		2		4	2	6	

FIGURE LOGIC 9

3	3	1	5		9	2	4	8
2	7	7	4	4		2	6	5
6	4			2	1		2	9
4		9	9	4	5		4	4
	1	8	7		8	5	0	
1	8		9	9	1	1		1
3	4		2	5			5	3
5	9	1		7	3	9	8	4
1	6	3	2		1	6	3	2

FIGURE LOGIC 10

	1	6	2		1	7		
	1	4	4		1	0	5	3
1	8		3	1	5		4	4
5	8	5		6		7	9	2
		2	9		3	1		
2	3	2		4		1	1	7
6	6		1	8	9		5	6
1	0	3	5		3	5	1	
		2	3		6	1	2	

NUMBER PLACE 1

6	7	3	4	9	1	5	2	8
9	1	5	2	8	6	7	3	4
2	4	8	7	3	5	1	9	6
4	5	6	1	2	3	8	7	9
1	9	2	8	7	4	3	6	5
3	8	7	5	6	9	2	4	1
7	2	4	9	1	8	6	5	3
8	6	9	3	5	7	4	1	2
5	3	1	6	4	2	9	8	7

NUMBER PLACE 2

7	8	1	6	9	2	5	4	3
2	5	3	4	7	1	9	8	6
4	9	6	8	3	5	7	1	2
8	2	7	1	4	6	3	9	5
1	3	9	5	2	7	4	6	8
6	4	5	3	8	9	2	7	1
9	6	4	2	5	8	1	3	7
3	1	2	7	6	4	8	5	9
5	7	8	9	1	3	6	2	4

NUMBER PLACE 3

5	2	9	6	3	1	4	7	8
3	1	4	7	8	5	2	9	6
6	7	8	2	4	9	1	3	5
1	5	6	9	2	4	7	8	3
8	3	7	5	1	6	9	4	2
9	4	2	3	7	8	6	5	1
2	9	5	4	6	3	8	1	7
4	6	1	8	5	7	3	2	9
7	8	3	1	9	2	5	6	4

BLACK MAGIC 1

			3		2
		4		5	0
1		4	4		
			2		
	3				

CROSS NUMBERS

1.

8	+	7	+	9	24
−		x		x	
3	x	4	x	2	24
x		÷		+	
5	−	1	x	6	24
25		28		24	

2.

2	+	6	x	5	40
−		÷		−	
1	+	3	x	4	16
x		+		+	
9	+	7	+	8	24
9		9		9	

3.

1	x	9	−	4	5
+		+		x	
8	−	6	x	7	14
x		÷		+	
5	+	3	+	2	10
45		5		30	

NUMBER PLACE 4

4	6	8	9	7	5	3	1	2
7	5	3	1	2	8	6	4	9
1	2	9	3	4	6	5	7	8
6	8	5	7	1	4	9	2	3
2	3	1	8	5	9	7	6	4
9	7	4	6	3	2	1	8	5
8	1	2	5	9	7	4	3	6
3	9	6	4	8	1	2	5	7
5	4	7	2	6	3	8	9	1

NUMBER PLACE 5

8	9	3	4	1	6	7	5	2
6	7	5	2	8	9	3	4	1
1	2	4	3	5	7	6	8	9
4	3	1	8	9	2	5	6	7
9	8	7	5	6	3	2	1	4
2	5	6	1	7	4	8	9	3
3	4	8	9	2	5	1	7	6
7	1	2	6	4	8	9	3	5
5	6	9	7	3	1	4	2	8

NUMBER PLACE 6

9	2	4	6	8	1	3	5	7
1	3	5	7	9	2	4	6	8
8	7	6	3	4	5	1	2	9
5	1	9	4	3	8	2	7	6
3	8	2	5	7	6	9	4	1
6	4	7	2	1	9	8	3	5
4	9	3	1	6	7	5	8	2
7	5	8	9	2	3	6	1	4
2	6	1	8	5	4	7	9	3

BLACK MAGIC 2

				2		
2		3				
			1	2	2	
	3					
						3
	0					
				2	0	

BINGO PLAYS 1

	B	I	N	G	O	
P	5	25	44	57	(70)	P
L	10	18	36	(48)	69	L
A	15	21	FREE	53	67	A
Y	2	(23)	39	46	68	Y
S	(3)	28	37	51	72	S
	B	I	N	G	O	

BINGO PLAYS 2

	B	I	N	G	O	
P	10	24	31	46	64	P
L	13	28	39	60	69	L
A	(15)	(16)	FREE	(56)	(65)	A
Y	12	27	33	54	74	Y
S	6	19	38	52	63	S
	B	I	N	G	O	

BINGO PLAYS 3

	B	I	N	G	O	
P	15	17	38	47	(66)	P
L	7	16	35	(48)	65	L
A	5	30	FREE	50	75	A
Y	3	(29)	37	51	62	Y
S	(1)	26	42	60	63	S
	B	I	N	G	O	

SQUARE LOGIC

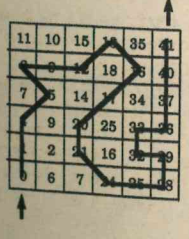
18	19	21	3	4
10	20	15	6	14
17	2	13	24	9
12	1	11	25	16
8	23	5	7	22

CROSSMATH

8	8	+	6	7	8		7	7	5	÷	5	+	9	2
4	+	7	x	5	+		5	0	−	7	+	8	1	0
9	6	x	6	÷	4		6	−	3	+	7	0	2	+
6	0	5	÷	5		2	÷	1		4	x	6	÷	3
÷	7	−	4		8	+	6	+	9		3	+	6	0
4	−	2		7	+	5	3	+	4		3	−	3	
7	5	−	9	−	3	4		6	3	x	8			
2	0	9	÷	1	1			4	8	+	7	8	4	
			3	x	6	7		4	8	x	7	−	2	8
2	x	9		1	+	2	6	0	÷	3		4	+	9
4	4	+	3		8	÷	2	x	7		5	x	6	+
+	8	8	+	6		3	+	4		8	+	6	0	5
5	+	2	3	x	7	−	5		8	x	7	−	2	0
7	3	−	4	4	−	1	0		−	3	x	4	÷	6
6	0	8	0	÷	3	8	0		8	6	4	÷	3	6

MARCHING ORDERS

1.



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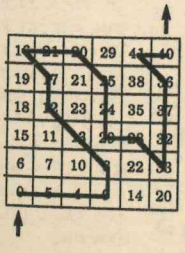

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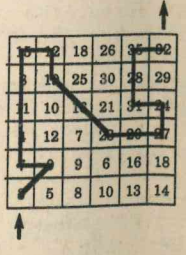

DELL PUZZLE MAGAZINES — PREMIER PUZZLING AT ITS BEST!

LOGIC PROBLEM 1

The fourth customer was neither Reston (clue 1) nor Pei (clue 2); either Santiago or Ms. Quantz was fourth. Tim is not Santiago (clue 3), so he was not fourth. Neither Velma (clue 2) nor Walter (clue 4) was fourth, so Ursula was. The person served third was not Velma (clue 2) nor Tim (clue 3); Walter was third. Walter is not Ms. Quantz, Reston (clue 1), or Santiago (clue 3); he is Pei. By clue 2, Ursula was given the wrong drink. By clue 3, then, Velma is the woman charged the wrong price, while Ursula is Santiago. By elimination, Velma is Ms. Quantz, while Tim is Reston. Walter was not given the wrong dessert (clue 4); Tim was, while Walter was given fries. By clue 1, then, Tim was second, while Velma was first. In summary:

1: Velma Quantz, price
2: Tim Reston, dessert
3: Walter Pei, fries
4: Ursula Santiago, drink

LOGIC PROBLEM 2

Weldy lives in an apartment (clue 6), so Weldy's lock was not the house back door (clue 3) or front door (clue 4), nor was it the car door (clue 1); his lock was the office. The lock on Jackson was not the office (clue 2) or either house (clue 7); it was the car. Calvin didn't wait on Jackson (clue 1) or Franklin or Madison (clue 5); he waited on Wilson. Taylor's lock was not the front door (clue 4) or car (clue 8); it was the back door. Weldy isn't Calvin (clue 1), Eve (clue 2), or Oliver (clue 9); she is Anna. By clue 2, neither Eve nor Anna had the car on Jackson, so Oliver did. Oliver is not Ramsey (clue 3) or Taylor (clue 8); he is Hawthorne. By elimination, Ramsey's lock was the front door. Eve is not Taylor (clue 4); she is Ramsey, while Calvin is Taylor. Anna's office was not on Madison (clue 10); it was on Franklin. By elimination, Eve waited on Madison. In summary:

Anna Weldy, Franklin, office
Calvin Taylor, Wilson, back
Eve Ramsey, Madison, front
Oliver Hawthorne, Jackson, car

LOGIC PROBLEM 3

Todd's shirt caricature was neither Jack the Ripper (clue 3) nor Beefeater (clue 5); it was either Shakespeare or Elizabeth. The Shakespeare shirt was neither red (clue 1) nor blue (clue 4). The Elizabeth shirt was neither red nor blue (clue 7). Todd, then, bought neither the red nor the blue shirt. He did not buy the gray (clue 3), so he bought the tan. He didn't buy it near St. Paul's (clue 2), Regent's (clue 3), or Tower (clue 6); he bought it near Covent. By clue 1, Todd didn't buy the Shakespeare shirt, so he bought the tan Elizabeth shirt, while the Shakespeare shirt was gray. Heather bought neither the blue nor the gray (clue 4); she bought the red. The shirt bought near Regent's had neither Shakespeare (clue 3) nor a Beefeater (clue 5); it had Jack the Ripper. Heather didn't buy the Jack the Ripper (clue 5), so she bought the Beefeater. By elimination, the Jack the Ripper was blue. The Shakespeare shirt wasn't bought near the Tower (clue 6); it was bought near St. Paul's, while the Beefeater shirt was bought near the Tower. Brandon didn't buy his shirt near St. Paul's (clue 2); he bought it near Regent's, while Audrey bought hers near St. Paul's. In summary:

Audrey, Shakespeare, gray, St. Paul's
Brandon, Jack the Ripper, blue, Regent's
Heather, Beefeater, red, Tower
Todd, Elizabeth, tan, Covent

LOGIC PROBLEM 4

By clue 1, the mother at table 1 has no grandchildren, and was not Mrs. Lee or Mrs. Nye. She was not Mrs. Mix or Mrs. Jones (clue 5); she was Mrs. Koon. Two women have no grandchildren (clue 1); they are Mrs. Nye (clue 1) and Mrs. Koon. The professor has no children (clue 2); by clue 4, she is not Mrs. Nye's daughter, so she is Mrs. Koon's. By clue 2, Mrs. Dill is Mrs. Nye's daughter. Mrs. Jones, Mrs. Lee, and Mrs. Mix all have grandchildren. The attorney has children, and her mother is not Mrs. Lee (clue 1). Her mother is not Mrs. Mix (clue 5), so her mother is Mrs. Jones. The professor is not Mrs. Cox (clue 1), Able or Eton (clue 6); she is Mrs. Best. The attorney is not Mrs. Cox (clue 1) or Mrs. Eton (clue 7); she is Mrs. Able. Mrs. Lee is not Mrs. Cox's mother (clue 1); she is Mrs. Eton's mother, while Mrs. Mix is Mrs. Cox's mother. Mrs. Nye and her daughter Mrs. Dill, who has no children, did not sit at table 2 or 5 (clue 4) or 3 (clue 8); they sat at table 4. The daughter at table 5 was neither Eton nor Able (clue 7); she was Cox. Mrs. Jones was not at table 3 (clue 8); she was at table 2, while Mrs. Lee was at table 3. By clue 3, Mrs. Dill is the engineer. Mrs. Cox is not the pharmacist (clue 5); she is the accountant, while Mrs. Eton is the pharmacist. In summary:

1: Koon, Best, professor
2: Jones, Able, attorney
3: Lee, Eton, pharmacist
4: Nye, Dill, engineer
5: Mix, Cox, accountant

LOGIC PROBLEM 5

Andrea worked one more day than Ms. Wilson, who worked one more day than the one who worked for the accountants (clue 1), so Andrea worked three or more days. Ellen worked two days more than Ms. Young (clue 4), so she worked three or more days. Ms. Thomas worked two more days than the one who worked for the stockbrokers (clue 6), so she worked three or more days. Ms. Young did not work for the stockbrokers (clue 2), so Ms. Thomas is not Ellen. In some order, then, Andrea, Ellen, and Ms. Thomas worked three, four, and five days. If Ms. Thomas had worked five and the one for the stockbrokers three, Ellen would have worked four and Ms. Young two (clue 7). This, however, would leave no place for Ms. Wilson (clue 1). If Ellen had worked five days and Ms. Young three, Ms. Thomas would have worked four and the one for the stockbrokers two. However, this would leave no place for Andrea (clue 2). Therefore, Andrea worked five days, Ms. Wilson four, and the one who worked for the accountants worked three. Ms. Thomas did not, then, work four days, so she worked three and the one for the stockbrokers one, while Ellen worked four days and Ms. Young two. The one who worked for the stockbrokers was not Ms. Stevens (clue 6); she was Ms. Valley, while Ms. Stevens is Andrea. Andrea did not work for either the physicians or dentists (clue 9); she worked for the law firm. Betsy is neither Ms. Valley nor Ms. Thomas (clue 3); she is Ms. Young. Denise is not Ms. Thomas (clue 8); she is Ms. Valley, while Carol is Ms. Thomas. Ellen Wilson did not work for the physicians (clue 5); she worked for the dentists, while Betsy worked for the physicians. In summary:

1: Denise Valley, stockbrokers
2: Betsy Young, physicians
3: Carol Thomas, accountants
4: Ellen Wilson, dentists
5: Andrea Stevens, law firm

LOGIC PROBLEM 6

There are six pets, three of which are cats, one a rabbit (clue 1), and two dogs (clue 6). There are four owners, so two owners travel with two pets each and two travel with one pet each (clue 1). One travels with both dogs (clue 6). The other with two pets does not have the rabbit (clue 1), so he or she has two cats. By clue 2, Fluffy is a male and is not owned by Jennings. Fluffy is not owned by Hartley (clue 1) or Yoder (clue 6), so Fluffy is owned by Gibson. Charles is not Ms. Hartley (clue 1), or Jennings or Gibson (clue 2); he is Yoder. Hip and her littermate (clue 7) are the pair of female pets owned by Ms. Hartley (clue 1). She is not Valerie (clue 5); she is Robin. By clue 4, then, Gibson owns only Fluffy. Gibson is not, then, Donald; she is Valerie, while Donald is Jennings. Valerie arrived just before Charles, who arrived just before the person with two dogs (clue 6). Valerie owns only Fluffy, so she is not mentioned in clue 3. By clue 3, then, Charles owns Sam and Mike is one of the two dogs. Mike is male (clue 3), so he and the other dog are owned by Donald, while Robin owns two cats. Fluffy is not a cat (clue 4); he is the rabbit, while Charles's Sam is the third cat. The order of arrival was, then, Valerie, Charles, Donald, and Robin. By clue 3, Robin owns Hop. By elimination, Murphy is Donald's second dog. In summary:

1: Valerie Gibson, male rabbit Fluffy
2: Charles Yoder, cat Sam
3: Donald Jennings, male dogs Mike and Murphy
4: Robin Hartley, female cats Hip and Hop

DEDUCTION PROBLEM 1

None of the students claimed the highest score of 96, so none of the students who claimed a score told the truth. Ruth, then, told the truth and she got the 96 while Carrie got the 87. Mike did not get the 84, so he got the 92. By elimination, Chris got the 84. In summary: Ruth 96, Mike 92, Carrie 87, and Chris 84.

DEDUCTION PROBLEM 2

Ed is not the lawyer or the businessman, so he is the government employee. He is not then Smith, nor is he Brown; he is Walton. Smith is not Rick, so he is Jim, while Rick is Brown. Barbara is not Jim's wife or Mrs. Walton, so she is Rick's wife. Rick Brown is not the businessman, so he is the lawyer, while Jim is the businessman. Dora is then not Jim's wife; she is Ed's, while Jim is married to Jean. In summary: Dora & Ed Walton, government; Jean & Jim Smith, business; Barbara & Rick Brown, lawyer.

HALF-TIME

Areas #1, #3, #6, and #8. The diagram has a total of 114 squares, so 57 squares must be shaded. The gray area contains 14, so 43 more squares remain.

LOGIC PROBLEM 7

The second trip is not to LaGuardia (clue 3), MacArthur or Allaire (clue 7), or JFK. (clue 11); it is to Newark. The fourth is to JFK (clue 11). Ms. Easton is not going to Newark (clue 7) so, by clue 12, she is flying United, while the one from Deal is going to Newark. The one going to JFK is not flying Continental (clue 1), nor is he or she from Oyster Bay (clue 9). By clue 2, then, the one on flight 811 is not going to JFK. By clue 7, then, Ms. Easton is going to JFK for a United flight. She is not being picked up in Sea Girt or Moriches (clue 1); she is being picked up in Northport. The one from Deal going to Newark will not fly Sprint (clue 5). By clue 1, then, he or she will fly Continental. He or she will not take flight 811 (clue 7) so, by clue 2, she is Ms. Hartka, while the one from Oyster Bay will take flight 811. By clue 1, the one from Oyster Bay will fly Sprint. That customer is first, third, or fifth. He or she is not first (clue 5) or fifth (clue 9); he or she is third. By clue 5, Mr. Driscoll is the first customer, and by clue 9, Ms. Paoli is the fifth customer. By elimination, the third customer is Leinson. By clue 4, the LinkAir flight is fifth, and Ms. Easton is going to Atlanta. By elimination, Driscoll is flying EagleAir. Leinson is going to neither MacArthur nor Allaire (clue 7); he is going to LaGuardia. Driscoll is going to Nantucket (clue 3). By clue 8, Driscoll will take flight 13, and Leinson is going to Portland. The third trip will take flight 811, so the fifth is not to Baltimore (clue 14); it is to Boston, while the second trip is to Baltimore. By clue 14, the fourth customer will take flight 925. Hartka from Deal will not take flight 65 (clue 13); she will take flight 207, while Paoli will take flight 65. By clue 10, then, the first trip is not to MacArthur; it is to Allaire, while the fifth trip is to MacArthur. Paoli is not from Sea Girt (clue 6); she is from Moriches, while Driscoll is from Sea Girt. In sum:

1: Driscoll, Sea Girt, Allaire, EagleAir, 13, Nantucket
2: Hartka, Deal, Newark, Continental, 207, Baltimore
3: Leinson, Oyster Bay, LaGuardia, Sprint, 811, Portland
4: Easton, Northport, JFK, United, 925, Atlanta
5: Paoli, Moriches, MacArthur, LinkAir, 65, Boston

LOGIC PROBLEM 8

By clue 1, Al and Cal had end booths on opposite corners, while the taco chef had a third end booth. The curry chef had an end booth, but was not Cal (clue 4). Al did not sell curry (clue 8), so the curry chef had the fourth end booth, and was at the opposite corner from the taco chef. Barbecue was sold in a middle booth (clue 7) so, by clue 10, tacos were sold in booth 7 or 8, while curry was sold in booth 1 or 2. Whitman had a corner booth and sold either tacos or curry (clue 8). The four booths on Cal's side were Cal's, Sal's, the meatball chef's, and either the taco or curry booth (clue 4). Hal was opposite Sal (clue 4), so he was on Al's side, with one booth between them. By clue 2, the opposite booths that sold minestrone and chili were Sal's and Hal's. Lon was in a middle booth but did not sell meatballs (clue 1); he was opposite the meatball booth, between Al and Hal. Al, Lon, and Hal were three of the four men on one side, so Ron and Don were on the opposite side (clue 6). By elimination, Jon was in the end booth beside Hal. Whitman, in the booth opposite Al's, is not Don (clue 8); he is Ron, while Don sold meatballs. Ron did not sell tacos (clue 10), so he sold curry, while Jon sold tacos. Ron Whitman and Al were, in some order, in booths 1 and 2, Don and Lon were in 3 and 4, Sal and Hal were in 5 and 6, and Cal and Jon were in 7 and 8. Since Hal and Sal sold, in some order, minestrone and chili, the barbecue chef was Lon (clue 7). Blackmon was in a middle booth (clue 5) so, by clue 9, either Blackmon was in 3 and Grayson 6, or Blackmon was in 4 and Grayson 8. Grayson was not in 6, which sold either minestrone or chili (clue 2), so he was in 8 and Blackmon in 4. Browning, Redmond, and Greenfield all had booths on the same side (clue 3). Goldman and Blackmon had booths on opposite sides (clue 5), so one of these two was on the same side as Browning, Redmond, and Greenfield. They were not, then, on the same side as Ron Whitman; they are, in some order, Al, Lon, Hal, and Jon. Blackmon in 4 and Grayson in 8 are on the same side, so Goldman was on the side with Redmond, Browning, and Greenfield, while Whitman, Blackmon, and Grayson were on the same side. Whitman, then, was in an even-numbered booth; Ron Whitman was in 2, Don Blackmon in 4, Sal in 6, and Cal Grayson in 8, while Al was in 1, Lon in 3, Hal in 5, and Jon in 7. By elimination, Sal is Tanner. Quiche was sold in an odd-numbered booth (clue 5); it was sold by Al, while Cal sold crab dip. By clue 3, either Redmond or Greenfield is in a corner booth, while the other is not, and Browning is in a middle booth. Goldman, then, is in a corner booth. He did not sell quiche (clue 5), so he is Jon, and sold tacos. Redmond's booth number was 4 or lower (clue 9); by clue 3, then, Redmond was in 1 and is Al, Browning is Lon, and Greenfield is Hal. Hal did not make chili (clue 3); he made minestrone, while Sal made chili. In sum:

1: Al Redmond, quiche
2: Ron Whitman, curry
3: Lon Browning, barbecue
4: Don Blackmon, meatballs
5: Hal Greenfield, minestrone
6: Sal Tanner, chili
7: Jon Goldman, tacos
8: Cal Grayson, crab dip

LOGIC PROBLEM 9

By clue 2, four jobs done in consecutive order first to last were Kathy's, the purple car's, the spark plug, and Naylor's. By clue 6, four jobs done in consecutive order first to last were the yellow car's, Ernie's, the radiator, and Quince's. Since there were six jobs done, and only one job was done each day, exactly two jobs are mentioned in both clues, and all six jobs are mentioned. One clue, then, lists the Monday, Tuesday, Wednesday, and Thursday jobs, while the other lists the Wednesday, Thursday, Friday, and Saturday jobs. If clue 2 mentioned the Monday through Thursday jobs and clue 6 the Wednesday through Saturday jobs, the jobs in order would be Kathy's, the purple car's, the yellow car's spark plugs, Ernie Naylor's, the radiator, and Quince's. This, however, would leave no place for the jobs mentioned in clue 4. Clue 6, then, mentions the Monday through Thursday jobs and clue 2 the Wednesday through Saturday jobs: the jobs in order from first to last were the yellow car's, Ernie's, Kathy's radiator, Quince's purple car's, the spark plugs, and Naylor's. By clue 4, the distributor was fixed Monday, the blue car Tuesday, and Taylor's Wednesday. Zelda's job was Monday and the white car's Saturday (clue 5). By clue 1, Ullman's job was Friday, Ollie's was Thursday, and the maroon car Wednesday. By elimination, the gray car was Ullman's. Clair does not own the gray car (clue 3); she owns the white, while Vince owns the gray. By clue 7, the head gasket was fixed Thursday and Ingram is Ernie. By elimination, Zelda is Lawson. Clair did not have the air filter replaced (clue 3); she had the fuel pump fixed, while Ernie had the air filter replaced. In summary:

Mon.: Zelda Lawson, yellow, distributor
Tues.: Ernie Ingram, blue, air filter
Wed.: Kathy Taylor, maroon, radiator
Thurs.: Ollie Quince, purple, gasket
Fri.: Vince Ullman, gray, spark plugs
Sat.: Clair Naylor, white, fuel pump

LOGIC PROBLEM 10

All weights were multiples of 100, all seven were different, and none was less than 300 (clue 1). The total weight was 4200 lbs. (clue 7). The seven weights, then, were 300, 400, 500, 600, 700, 800, and 900 lbs. By clue 7, the weight of the plastics plus the weight of the material in the orange containers totaled 1400; they are, in some order, either 500 + 900 or 600 + 800. The total weight of the materials in the blue and white containers was half the combined weight of the two papers (clue 2). The combined weight of the two cans was half the combined weight of the two glasses (clue 4). The combined high weights mentioned in clues 2 and 4 are divisible by 2, and the resulting number is divisible by 100 (clue 1). The only possibility is that the combined weight of the two papers and the combined weight of the two glasses are, in some order, 1600 and 1400. The combined weight of 1600 is the 900 plus the 700, so the combined weight of the 1400 is the 800 plus 600. Therefore, the two papers and two glasses account for the 900, 800, 700, and 600 weights. The combined lower weights mentioned in clues 2 and 4 are, in some order, 700 and 800 lbs; one pair is 300 + 400, while the other is 300 + 500, and one item is mentioned in both clues. By clue 7, the plastics weigh 500 and the orange container material 900. The plastics, then, were in either the blue or white containers; they were not in the blue (clue 7), so they were in the white, and the blue container material weighed 300. The blue containers held one type of cans, while the other type of cans weighed 400. The two papers combined weighed 1600; in some order, they were 900 and 700. The other papers did not weigh 900 (clue 6); they weighed 700, while the newspapers weighed 900 and were in the orange containers. The two glasses combined were 1400, or 600 + 800 (clue 4). By clue 6, since other papers weighed 700, the clear glass weighed 800. By elimination, the colored glass weighed 600. By clue 5, then, the only possible combination is the green container material weighed 400 and was tin cans, the aluminum cans were 300, and the purple container material weighed 700. The yellow container material weighed 600 (clue 6), and was the colored glass. By elimination, the clear glass was in the red containers. In summary:

blue, aluminum cans, 300
green, tin cans, 400
white, plastics, 500
yellow, colored glass, 600
purple, other papers, 700
red, clear glass, 800
orange, newspapers, 900

LOGIC PROBLEM 11

The earliest show was no earlier than 12 noon and the last ended no later than 6 PM (clue 1). Ima watched channels 2, 4, 7, 9, and 13. By clue 3, the 2:30 show was on either channel 9 (2 + 7) or 13 (4 + 9). By clue 5, the 5:00 show was also on either channel 9 or 13. The 2:30 and 5:00 shows were, then, in some order, the channels 9 and 13 shows, and either the 2:30 show is mentioned in clue 5 or the 5:00 show is mentioned in clue 3. Ima spent an hour at the grocery between two shows (clue 6) and a later hour on the phone between two shows (clue 4). She spent 2.5 hours watching shows. The 2:30 show was not the second show (clue 3), so there were two shows before the 2:30 show and two shows after it. Ima watched channel 7 immediately before or after her trip to the grocery (clue 6), and channel 4 immediately before or after her later phone calls (clue 4), so she watched channel 4 and either channel 9 or 13 after 2:30, and channel 2 and 7 before 2:30. The last three shows were, then, the one from 2:30 to 3:00 on channel 9 or 13, the one on channel 4, and the one 5:00 to 5:30 on either 9 or 13. The program featuring babies with green hair was earlier than at least two other shows (clue 7) so, by clue 4, it was the 2:30-3:00 show, Ima spent an hour on the phone between 3:00 and 4:00, and the channel 4 show was on 4:00 to 4:30. The show featuring the orange diet was on at 4:00 (clue 7). By clue 5, the show featuring blue jeans was on either 2 or 7; the only possibility is that the jeans show and Chatterly's show were, in some order, on channels 2 and 7, and the 5:00 show was on channel 9. By clue 3, then, the 2:30 show was on channel 13, and the Raider show and the show about red avocados were, in some order, on channels 4 and 9. Since the show about the orange diet was on 4, that show was Raider's, while the 5:00 show on channel 9 was about red avocados. There was a half-hour break between the 4:00 and 5:00 shows, so the 5:00 show was not Glibly's (clue 2). It was not Quacious's show (clue 6), so it was Awl's. Chatterly's show was on 2 or 7 and was not about jeans (clue 5); it was about purple dinosaurs. Glibly's show was not about jeans (clue 2); it was about green hair at 2:30. By elimination, Quacious's show was about jeans. Quacious's show was not on channel 7 (clue 6); it was on channel 2, while Chatterly's show was on channel 7. Ima spent an hour between Chatterly's show and Quacious's show at the grocery (clue 6). By clue 2, then, the two shows on consecutively were the 2:30 show and a 2:00 show, and the first show was at 12:30-1:00; the Quacious show about jeans on channel 2 was at 2, while Chatterly's show about purple dinosaurs on channel 7 was at 12:30. In summary:

12:30-1:00: channel 7, Chatterly, dinosaurs
1:00-2:00: grocery store
2:00-2:30: channel 2, Quacious, jeans
2:30-3:00: channel 13, Glibly, green hair
3:00-4:00: phone calls
4:00-4:30: channel 4, Raider, orange diet
5:00-5:30: channel 9, Awl, red avocados

LOGIC PROBLEM 12

The taxi in position one did not go eight km (clue 10). By clue 11, then, the taxi in one went at least 11 km, and the Cabots went at least 15 km. If the Cabots had gone 15 km, the taxi in one would have gone 11 km (clue 11). The family that went 20 would not have been the Fairfields (clue 5), Milos (clue 7), or Walkers (clue 9); it would have been the Karr family. The cab that went to the Museum would not have gone 5, 8, or 11 km (clue 2) or 15 km (clue 8); it would have gone 20 km and been the Karrs'. The Coral Reef taxi would have gone less than 11 km (clue 11). By clue 6, then, the Coral Reef taxi and the taxi that went to Grapetree would have gone, in some order, 5 and 8 km. The taxi in 5 was neither the Coral Reef (clue 1) nor the one that went to Grapetree (clue 6); the taxi in 5 would have gone more than 8 km. It would not have gone 20 (clue 2); it would have gone 15 and been the Cabots'. The taxi that went to the Museum would have been in 3. The Coral Reef taxi would have been in either 2 or 4. This, however, contradicts clue 1. Therefore, the Cabots' taxi did not travel 15 km, so it traveled 20 km. The Walkers' taxi was not in 3 (clue 9). Since the Coral taxi was not in 1 (clue 11), the Walkers' taxi was not in 1 or 2 (clue 1); it was either 4 or 5. If the Walkers' taxi had been in 4, the Coral taxi would have been in 3 (clue 1). The taxi that went to the Museum would not have been in 1 or 5 (clue 2) or 2 (clue 8). Since the Walkers' cab did not go as far as the one in 3 (clue 9), the taxi that went to the Museum would not have been in 4 (clue 2); it would have been in 3. The Cabots' taxi would not have been in 1 (clue 11); by clue 8, it would have been in 5. The Karrs' taxi would not have been in 1 or 2 (clue 4); it would have been in 3 and gone to the Museum. The taxi that went to Aqualife would have been in 1 and the Red taxi in 2 (clue 4). By clue 10, the Prince taxi would have been in 1. This, however, would leave no place for the Milos' taxi (clue 7). Therefore, the Walkers' taxi was not in 4, so it was in 5. The Coral cab was in 4 (clue 1). The taxi that went to the Museum was not in 1 or 5 (clue 2). The Cabots' taxi was not in 1 (clue 11) so, by clue 8, the Cabots' taxi and the one that went to the Museum were, in some order, the taxis in 2 and 4. Both traveled at least 11 km (clue 2). The taxi that traveled 5 km was in neither 3 (clue 9) nor 1 (clue 11); it was in 5. The cab in 5 did not go to Aqualife (clue 4), Pelican (clue 5), or Grapetree (clue 6); it went to Lighthouse. It was not Lantana (clue 3), Red (clue 4), or Prince (clue 7); it was Hibiscus. The cab that traveled 8 km was not in 1 (clue 10); it was in 3. The cab in 3 went to neither Aqualife (clue 4) nor Pelican (clue 5); it went to Grapetree. The Coral cab traveled 11 km and the cab in 1 traveled 15 km (clue 11). By elimination, the Cabots' cab was in 2 and the taxi that went to the Museum was in 4. The taxi in 2 did not go to Pelican (clue 5); it went to Aqualife, while the taxi in 1 went to Pelican. The Red taxi was in 3 and the Karrs' taxi in 4 (clue 4). The Fairfields' taxi went 8 km (clue 5). By elimination, the Milos' went 15 km. The Prince taxi went 20 km (clue 7). By elimination, the Lantana taxi went 15 km. In summary:

1: Milos, Pelican, Lantana, 15 km
2: Cabots, Aqualife, Prince, 20 km
3: Fairfields, Grapetree, Red, 8 km
4: Karrs, Museum, Coral, 11 km
5: Walkers, Lighthouse, Hibiscus, 5 km

LOGIC PROBLEM 13

The last dance was done by both the youngest and the oldest (clue 5). It was, then, performed by the Mix-Ups. Since it includes dancers over and under 21, it is mentioned twice in clue 2 and not mentioned in clue 4 (clue 2). The Mix-Ups, then, did not perform either jazz, either folk, either ballet, or either ballroom (clue 4). Their secondary form was not tap (clue 3), so it was popular, and their primary form was tap. By clue 6, Kanisha choreographed the Mix-Ups. By clue 7, Kanisha is Cutleff. Pop was, then, the only secondary form danced after its primary (clue 3). The only possibility, then, is that each secondary form was danced immediately before its primary form, popular was the first primary, and tap was the fifth secondary. The fifth dance was by the Little Kids (clue 3). Neff choreographed fourth (clue 5). The fifth choreographer was either Juanita or Gomez (clue 2). He or she is not Juanita (clue 7), so he or she is Gomez. Gomez is not Sean (clue 2), Pam (clue 6), or Vladimir (clue 7); he is Robert. Robert did not use ballet as primary (clue 1) so, by clue 4, ballet primary was fourth and secondary third, while Robert choreographed folk primary, and folk was secondary fourth. By clue 2, Sean and Sabio choreographed, in some order, the two oldest groups, the Grown-Ups and the Seniors. Juanita choreographed a group under 21, but not the Teens (clue 2); she choreographed the Big Kids. Pam, then, choreographed Teens or older; by clue 6, she did not choreograph Seniors or Grown-Ups, so she choreographed the Teens. By elimination, Sabio is Vladimir. Vladimir Sabio did not choreograph first or second (clue 7); he choreographed third. Alston did not choreograph second (clue 7); Kahlil did, while Alston choreographed first. Sean and Vladimir Sabio choreographed the Seniors and the Grown-Ups, so Sean is Kahlil (clue 6). By clue 6, Pam is Alston, while Juanita is Neff. Sean Kahlil did not choreograph the Grown-Ups (clue 6); he choreographed the Seniors, while Vladimir choreographed the Grown-Ups. The Seniors did not do ballroom primary (clue 1); they did jazz primary. By elimination, then, primary ballroom was third, jazz secondary was first, and ballroom secondary was second. In sum:

1: Pam Alston, popular, jazz, Teens
2: Sean Kahlil, jazz, ballroom, Seniors
3: Vladimir Sabio, ballroom, ballet, Grown-Ups
4: Juanita Neff, ballet, folk, Big Kids
5: Robert Gomez, folk, tap, Little Kids
6: Kanisha Cutleff, tap, popular, Mix-Ups

RIGHT-ANGLE TANGLE

36 right angles: ABL, ABC, LBU, CBU, OBF, FBE, PBZ, EBZ, GBR, GBD, RBV, DBV, OPK, BPK, OPQ, BPQ, MKH, JKH, MKP, JKP, LKI, IKB, LKN, BKN, STB, STU, BTZ, UTZ, XZB, BZc, cZa, XZa, TZW, TZb, WZY, bZY.

SUM QUOTE

Wrinkles should merely indicate where smiles have been.

E=1, I=2, L=3, S=4, H=5, N=6, R=7, A=8, D=9, M=10, W=11, B=12, C=13, K=14, O=15, T=16, U=17, V=18, Y=19.

TWO-PART MATH

247	92
x 35	+ 30
1235	122
741	
8645	

LOGIC PROBLEM 14

By clue 2, the four corner students were Pamela, the Queen girl, the Connors boy, and Ann. Pamela and the Fowler girl sat at opposite ends of the same row (clue 6), so Ann is the Fowler girl, and sat in the same row as Pamela. Pamela was not in the front row (clue 10), so she and Ann were in the back row, while the Queen girl and the Connors boy were in the front row. Pamela's column included the Connors boy in the front row, an unknown student in the second row, the Holland boy in the third row, and Pamela in the fourth row (clue 10). Another column consisted of Will in the front row, the Egan girl in the second row, the Owens boy in the third row, and George in the fourth row (clue 7). Since Roger was in 103 (clue 8), the column in clue 7 was in column 2 or 4. The Potter boy sat immediately behind Ted (clue 16) so, by clue 3, another column of students consisted of the Long girl in the first row, Ted in the second row, the Potter boy in the third row, and the Davis girl in the fourth row; this column was also either 2 or 4. Louise Landry sat two seats behind Mary (clue 14), and at the opposite end of the row from Ned (clue 6); Ned is the Holland boy, Mary is the Queen girl, and Louise sat directly in front of Ann. By clue 11, Larry, Sandra, and the Morris boy were in the front row with Mary and Roger; Sandra is the Long girl and Larry is the Connors boy. Will and Roger are, in some order, the Morris boy and the student with the same first and last initials (clue 1). The only last name starting with W is the Wilson girl's (clue 5), so the student with the same first and last initials is Roger Rider, and Will is the Morris boy. Larry was not in seat 105 (clue 13), so he was in seat 101, Ned Holland was in 301, Pamela in 401, Mary Queen in 105, Louise Landry in 305, and Ann Fowler in 405. The Smith boy and Thompson girl were in the same row two rows behind the Iverson girl (clue 15). Since the Iverson girl was not in the front row, she was in the second row, and the Smith boy and Thompson girl were in the fourth row. The students in the fourth row were Pamela, George, the Davis girl, Ann Fowler, and an unidentified boy in 403 (clue 8), so Pamela is Thompson. There were ten boys and ten girls. Of the boys, there were three in the front row - Larry, Roger, and Will; two in the second row - Ted and the Boyd boy (clue 4); three in the third row - Ned, the Potter boy, and the Owens boy; and two in the fourth row - George in 402 or 404, and the boy in 403. The student in 303 was, then, a girl. Carl sat immediately behind the Wilson girl (clue 5). The Owens boy sat immediately behind the Egan girl and the Potter boy sat immediately behind Ted; Carl and the Wilson girl were in the middle column. A girl was in 303, so Carl was in 403 and the Wilson girl in 303. The Allen boy sat two seats directly behind Karen (clue 16). The Allen boy is not Carl (clue 5), so George is Allen and Karen is Egan. The Smith boy in the fourth row is, then, Carl. Diane was two rows behind David (clue 12), so she was in the fourth row, and is the Davis girl, while David was in the second row, and is the Boyd boy. The five students in the second row were Karen Egan, Ted, the Andrews girl, David Boyd, and Jane (clue 4); the Iverson girl, who was in the second row, is Jane. Jane Iverson sat directly in front of a boy (clue 14); she was in 201. By elimination, Ted is Jackson. Frank and Bill are, in some order, the Owens and Potter boys; Frank is not Owens (clue 7), so he is Potter, while Bill is Owens. Bill sat between two girls in his row (clue 9); he sat in 304, Karen Egan in 204, Will Morris in 104, and George Allen in 404, while Sandra Long was in 102, Ted Jackson in 202, Frank Potter in 302, and Diane Davis in 402. Beth sat between two boys in her row (clue 9); she was in 303 and is the Wilson girl. Vicky was not in 205 (clue 13); she was in 203. By elimination, she is the Andrews girl, while David Boyd was in 205. In summary:

101: Larry Connors
102: Sandra Long
103: Roger Rider
104: Will Morris
105: Mary Queen
201: Jane Iverson
202: Ted Jackson
203: Vicky Andrews
204: Karen Egan
205: David Boyd
301: Ned Holland
302: Frank Potter
303: Beth Wilson
304: Bill Owens
305: Louise Landry
401: Pamela Thompson
402: Diane Davis
403: Carl Smith
404: George Allen
405: Ann Fowler

LOGIC PROBLEM 15

By the introduction, twelve couples bought a total of 48 items, each couple bought the same number of items, and no couple bought more than one of each item; each couple bought four different items of the six items sold. By clue 14, the Nelsons were 9th and bought orange juice, bread, cereal, and bacon. The last three customers did not buy milk (clue 11), nor did the Nelsons, so customers 1 through 8 all bought milk. The Vandells did not buy milk (clue 17), so they were one of the last three customers. By clue 1, they were 10th and the Clarks were 11th. The Vandells bought bacon (clue 1) and orange juice (clue 3). The Smiths did not buy milk (clue 12), so they were 12th. The second item they did not buy was cereal (clue 6), so they bought juice, bread, eggs, and bacon. Allen did not buy milk or bacon (clue 12); he is Clark, and bought juice, bread, cereal, and eggs. Diane is Nelson, Mrs. Clark is Nola, and Joe is Smith (clue 17). The four couples who did not buy eggs were the 1st, 2nd, and 4th (clue 11), and 9th; the others all bought eggs. Since no two couples bought the same four items, the Vandells did not buy bread; they bought cereal. The 9th, 11th, and 12th couples bought bread, as did the first five couples (clue 3); these are the eight couples that bought bread. These five couples were waited on consecutively first to last: Janet and her husband, Jack and his wife, the couple who bought milk, bread, juice, and bacon, the couple who bought milk, bread, eggs, and bacon, and Jill and her husband (clue 10). The only possibility is that Janet was 2nd, Jack 3rd, the couple who bought milk, bread, juice, and bacon 4th, the couple who bought milk, bread, eggs, and bacon 5th, and Jill 6th. The Thompsons were 5th (clue 2). The Olsons were 3rd (clue 8). By clue 4, the Bakers were 4th, Gary is Mr. Thompson, Jill and her husband bought juice and bacon, the Stevenses were 7th, and Bill was 8th. Sue did not buy bacon or eggs (clue 5); she was 1st, and her final two items were juice and cereal. By clue 18, Carol was 4th and Nikki 5th. Bill bought juice (clue 3). All eight juice customers have now been identified, so the 2nd, 3rd, and 7th customers did not buy juice. The 2nd couple did not buy eggs or juice, so their final two items were cereal and bacon. The 7th couple did not buy bread or juice, so their final two items were bacon and cereal. By elimination, Bill's and Jack's fourth items were cereal. By clue 16, Steve is Vandell and Chuck is Nelson. Adam is Sue's husband and the Johnsons were 2nd (clue 15). The Ameses were 1st (clue 2). The Macks were not 8th (clue 8), so they were 6th while the Wickers were 8th. Sally was 7th and John was 6th (clue 13). Mrs. Smith is not Mary (clue 5) or Fern or Judy (clue 9); she is Amy. By clue 9, Fern is Wicker. Mary is not Olson (clue 5); she is Vandell, while Judy is Olson. George is Stevens (clue 7). Tom is not Johnson (clue 7); he is Baker, while Bob is Johnson. In summary:

1: Sue & Adam Ames, bread, milk, juice, cereal
2: Janet & Bob Johnson, bread, milk, cereal, bacon
3: Judy & Jack Olson, bread, milk, eggs, cereal
4: Carol & Tom Baker, bread, milk, juice, bacon
5: Nikki & Gary Thompson, bread, milk, eggs, bacon
6: Jill & John Mack, milk, eggs, juice, bacon
7: Sally & George Stevens, milk, eggs, cereal, bacon
8: Fern & Bill Wicker, juice, milk, eggs, cereal
9: Diane & Chuck Nelson, bread, juice, cereal, bacon
10: Mary & Steve Vandell, juice, bacon, eggs, cereal
11: Nola & Allen Clark, bread, juice, cereal, eggs
12: Amy & Joe Smith, bread, juice, eggs, bacon

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OSCAR'S OCTAHEDRON

By the diagram, the diametrically opposed sides (that share no point of contact) are: 1 & 7, 2 & 8, 3 & 5, and 4 & 6. The living thing on #8 is an animal, but not the gnat (clue 4). The gnat is purple (clue 4), so the only 6-letter color is with the only 4-letter animal. There is no 3-letter heavenly object, so the names of the animal, color, and heavenly object on #8 are all 5 letters (clue 6). The animal on #8 is, then, the rhino; the heavenly object on #8 is either Alcor or Virgo, and #8 is either black or green. The blue gardenia is not diametrically opposite the rhino (clue 5), so the rhino is not black (clue 1); it is green. If Virgo were on #8, Vega would be #4, #5, or #7 (clue 2). It would not be on #5 or #7 (clue 7), so it would be on #4. It would then be an animal (clue 4). This, however, contradicts clue 5, so Virgo is not on #8; Alcor is. Gold is on #2 (clue 1). There are four pairs of initial letters for colors. The colors on #3 and #5 begin with the same letter (clue 1). That letter is not B or P (clue 7), so it is T; #3 and #5 are, in some order, tan and tangerine. The image of one animal is in a color that begins with the same letter (clue 4). That animal is not the purple gnat or green rhino, so it is either the black bat or pink panther. If it were the black bat, the black bat would be opposite the blue gardenia (clue 1). The plant on #4 is not the gardenia (clue 5), so the black bat and blue gardenia would be, in some order, #1 and #7. #4 and #6 would be, in some order, the purple gnat and the pink object. #4 is a plant (clue 5), so it would be pink, while the purple gnat would be on #6. The pink plant on #4 would not be the palm (clue 6). Since the rhino is on #8, the radish is on #1, #3, or #6 (clue 3). The plant on #4 would, then, be the broccoli. A plant is on #2 (clue 5); by elimination, it would be the palm. However, gold and palm both have four letters, which would contradict clue 6. Therefore, the animal with the same first letter as its color is not the black bat; it is the pink panther. The pink panther and the purple gnat are on opposite faces (clue 1). Neither is on #4 (clue 5), so they are on, in some order, #1 and #7. By elimination, the blue gardenia and the black object are on, in some order, #4 and #6. The gardenia is not on #4 (clue 5); it is on #6, while the black object is on #4. Since the gardenia is on #6, the gnat is on #1 (clue 3), while the pink panther is on #7. By clue 3, the radish is on #3. The two remaining plants, the palm and the broccoli, are on, in some order, #2 and #4 (clue 5). The palm is not gold (clue 6); it is on #4, while the broccoli is on #2. By elimination, the bat is on #5. It is not tan (clue 6), so it is tangerine, while the radish is tan. The pink panther is with Saturn (clue 4). By clue 4, Vega is on #5. Mars is on #3 (clue 5). By clue 2, then, Arcturus is on #4, Mercury is on #2, Sirius is on #6, and Virgo is on #1. In summary:

1: gnat, purple, Virgo
2: broccoli, gold, Mercury
3: radish, tan, Mars
4: palm, black, Arcturus
5: bat, tangerine, Vega
6: gardenia, blue, Sirius
7: panther, pink, Saturn
8: rhino, green, Alcor

MINUTE MATH

1. 3.2 ounces. Using A to represent the number of pages in the first story and B the second, A = B – 10, and B = 3A. Therefore, A + 10 = B, so A + 10 = 3A, or 10 = 2A. A, then, is 5, while B is 15. There are then 20 pages in total, and 20 x .16 = 3.2. 2. 1/6 of the trip. He slept 1/3 of 1/2 of the trip. 3. Russ has $6, Carl $9 and Stan $15. Using R to represent Russ's money, C Carl's, and S Stan's, Carl's statement gives the equation R + 4 = 2 (C – 4). R + 4 then equals 2C - 8, or R + 12 = 2C. Russ's statement gives the equation S + 3 = 6(R – 3), so S + 3 = 6R – 18. Stan's statement gives the equation S + 3 = 3 (C – 3), or S + 3 = 3C – 9. Two statements, then, give a value for S + 3. Combining those two statements, we find 6R – 18 = 3C – 9. 6R – 9 = 3C, so 2R – 3 = C. By this equation, 4R – 6 = 2C. The first equation gave us R + 12 = 2C, so R + 12 = 4R – 6. R + 18 = 4R, so 18 = 3R. R, then, equals 6, C 9, and S 15. 4. Ashley is 3, Brian 16, Camilla 11, and Dustin 1. Using each child's first initial to represent his or her age, B = (A + 1)(A + 1). B is less than 21, so A is less than four. Ashley is not the youngest, who is at least one, so she is two or three. D = (C/11)(C/11). If A were two, B would be 9 and C 4, leaving no whole number for D. Therefore, A = 3. 5. 30 minutes. Mickey drove 1/2 the distance to, then drove 1/2 the distance back, then 1/3 to, 1/3 back, and the whole distance to work. He drove, then, 1/2 + 1/2 + 1/3 + 1/3 + 1 the normal distance, or 2 2/3 the normal distance. He then drove 1 2/3 more than his usual distance. That extra distance took 50 extra minutes so 1.66 of his usual time = 50, or his usual time = 50 ÷ 1.66 or 30 minutes.

NUMBERAMA

A. 45: –10 +20 –15 +30 –20 +40 –25 +50
B. 48: ÷8 +4 +8 +32 ÷8 +4 +8 +32
C. 4: x11 – 32 x8 ÷2 x11 – 32 x8 ÷2
D. 16: +6 x2 +8 ÷2 +6 x2 +8 ÷2
E. 7: ÷3 +12 +5 ÷3 +12 +5 ÷3 +12 +5
F. 20: –14 x2 x2 +12 –14 x2 x2 +12
G. 27: x2 ÷6 +14 +6 x2 ÷6 +14 +6
H. 36: +20 ÷3 +6 +22 ÷3 +6 +24 ÷3 +6
I. 24: ÷7 x3 +33 –12 ÷6 x2 +32 –11
J. 10: – 3 ÷2 x3 –5 ÷2 x3 –7 ÷2 x3
K. 8: x4 +4 +8 ÷2 x5 +5 +9 ÷3

WORD ARITHMETIC

0 1 2 3 4 5 6 7 8 9

1. O U R/ C L I E N T S
2. P R O C L A I M E D
3. P O N C A/ T R I B E

(Native Americans living in Nebraska and Oklahoma)

4. C A J O L E D/ H I M
5. G E T/ I N/ M Y/ C A R
6. N I C E S T/ H O U R
7. H U G E/ I M P A C T
8. B I G/ H A R V E S T
9. B O R I N G/ M E A L
10. P O L Y T H E I S M

(belief in or worship of many gods)

11. K I N D/ O F/ B U S Y
12. D E S I G N/ F L A W
13. I T/ H E L P S/ Y O U
14. G O L D/ J A C K E T
15. C A G E D/ L I O N S
16. C O A L/ M I N E R S
17. L U B R I C A T E D
18. L A T I N/ W O R D S
19. O L D/ S K E P T I C
20. S I L K/ T H R E A D
21. I R K S O M E/ F A N
22. O B D U R A T E L Y
23. P I N K/ F L O W E R
24. G R I N D S/ M E A T
25. E N V I O U S/ L A D
26. W A R M/ N I G H T S
27. S P I C Y/ F R O T H
28. T O W E L/ R A C K S
29. W H Y/ D O/ I/ C A R E?
30. S C A R Y/ V I D E O
31. N A V Y/ C L E R K S
32. U N I T E D/ G O A L
33. T H E/ G U L F/ W A R
34. N E W/ T R I U M P H
35. A/ L O N G/ S T I C K
36. R O U T I N E/ D A Y
37. P O L A R/ W I N D S
38. U N I M P R O V E D
39. S A C R E D/ H Y M N
40. P A R C H M E N T S
41. T R U E/ F I A S C O
42. R E T A I L/ S H O P
43. L O W/ P I T C H E S
44. E I G H T/ C L U B S
45. B L U E/ S T R I N G

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FIGURE LOGIC HELPS

FIGURE LOGIC 1

21-Down is either 11 or 12 and the first digit of 8-Across is either 8 or 6 (clue 21-Down), so the first digit of 16-Across is either 5 or 3 (clue 8-Across). The first digit of 9-Down is 1 (clue 9-Down), so the first digit of 14-Down is 1 (clue 14-Down). The last digit of 14-Down is 5 (clue 13-Across), so the last digit of 21-Down is 1 (clue 18-Across); 21-Down is 11.

FIGURE LOGIC 2

The first digit of 34-Across is 1 or 2 (clue 17-Down), so the last digit of 32-Across is 9 or 0 (clue 32-Across). Then by clue 2-Down, the last digit of 2-Down is 8.

FIGURE LOGIC 3

The first digit of 27-Down is 1 (clue 10-Across), so the first digit of 15-Across is 1 (clue 15-Across) and the first digit of 25-Across is 2 (clue 25-Across). The last digit of 23-Across is 5 (clue 23-Across) so, by clue 20-Down, 23-Across is 75.

FIGURE LOGIC 4

10-Across's first digit is 1 (clue 10-Across) and 6-Down's first digit is 1 (clue 6-Down); 6-Down is 11.

FIGURE LOGIC 5

The last digit of 6-Across is 0 (clue 8-Down) so the last digit of 32-Across is 0 or 5 (clue 6-Across). 32-Across is 45 or 90 (clue 30-Down). Since the first digit of 6-Across is greater than 1 (clue 10-Across), by clue 6-Across, 32-Across is 90.

FIGURE LOGIC 6

By clue 28-Across, the last digit of 24-Down is even, so by clue 23-Down, 24-Down is 90.

FIGURE LOGIC 7

1-Across's first digit is 1 (clue 1-Across) and second digit is 1 or 2 (clue 22-Across). If 1-Across were 11, there would be no solution for 6-Across, so 1-Across is 12.

FIGURE LOGIC 8

No answer includes a 0 (clue 1), and all answers are even (clue 2). 5-Across is seven times 28-Across (clue 7), so either 5-Across is 84 and 28-Across is 12, or 5-Across is 98 and 28-Across is 14. Since 25-Down is one-half of 5-Across (clue 3), 5-Across is not 98; it is 84, 28-Across is 12, and 25-Down is 42.

FIGURE LOGIC 9

30-Down is 13.

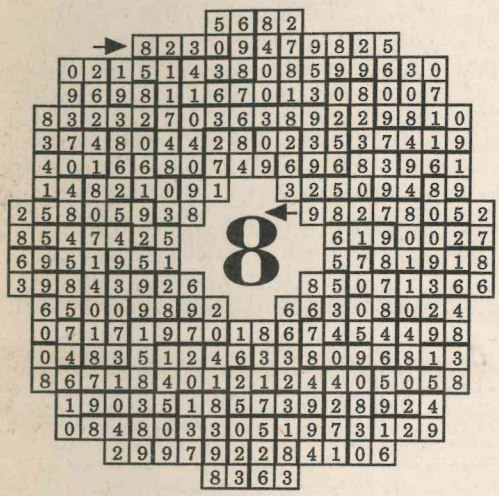
FIGURE LOGIC 10

By clue 14-Across, the last digit of 14-Across is either 0 or 5; by clue 15-Down, then, it is 5.

CROSS SUMS HELPS

1. 812	6. 689	11. 513	16. 736
2. 945	7. 798	12. 35421	17. 379
3. 319	8. 9584	13. 5971	18. 649
4. 695	9. 83612	14. 8795	19. 1254
5. 5321	10. 4896	15. 8649	20. 18634

EIGHT BALL



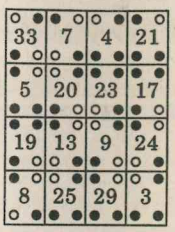
SUM LOGIC 1

21	8	2	31	20
27	24	7	18	6
8	15	14	11	34
17	21	35	5	4
9	14	24	17	18

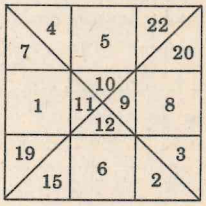
SUM LOGIC 2

14	2	32	19	18
27	10	8	14	26
18	31	21	5	10
9	15	20	25	16
17	27	4	22	15

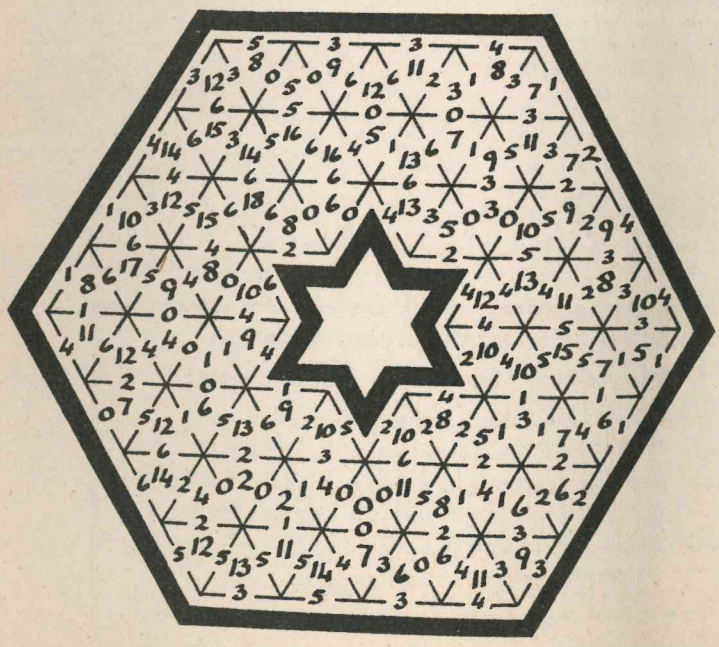
SUMSPOTS



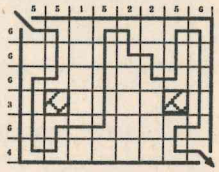
TRIANGULAR SQUARE



TRIGONS



MATH MAZE 1



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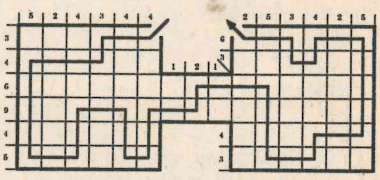

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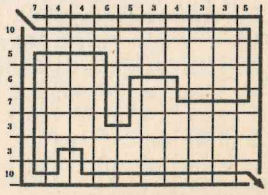

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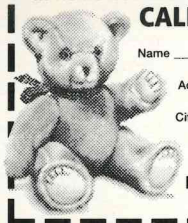

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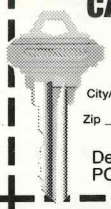

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